CIIL Phonetic Reader Series—9

KŨṚUX
PHONETIC READER

FRANCIS EKKA

CENTRAL INSTITUTE OF INDIAN LANGUAGES
Manasagangotri, Mysore-570 006

KŨṚUX PHONETIC READER

CENTRAL INSTIUTE OF INDIAN LANGUAGES

PHONETIC READER SERIES

9

Editor

E. ANNAMALAI

CIIL Phonetic Reader Series—9

KŨṚUX
PHONETIC READER

FRANCIS EKKA

सत्यमेव जयते

CENTRAL INSTITUTE OF INDIAN LANGUAGES
Manasagangotri, Mysore-570 006

First Published : *May 1985*
Vaisakha 1907

© *Central Institute of Indian Languages, 1985*

Price Rs : 22-00

Published by D. P. Pattanayak, Director, Central Institute of
Indian Languages, Manasagangotri, Mysore-570 006.
Printed at the CIIL Printing Press by M. G. Kanakram,
Asst. Director (Admn.)

FOREWORD

The Central Institute of Indian Languages was set up on the 7th July, 1969 with a view to assisting and co-ordinating the development of Indian languages. The Institute was charged with the responsibility of serving as a nucleus to bring together all the research and literary out-put from the various linguistic streams to a common head and narrowing the gap between basic research and developmental research in the fields of languages and linguistics in India.

The Institute and its six Regional Language Centres are thus engaged in research and teaching which lead to the publication of a wide-ranging variety of materials. Preparation of materials designed for teaching learning at different levels and suited to specific needs is one of the major areas of interest of the Institute. Basic research relating to the acquisition of language and study of language in its manifold psycho-social relations constitute another broad range of its interest. The publications will include materials produced by the members of the staff of the Central Institute of Indian Languages and its Regional Language Centres and associated scholars from Universities and Institutions, both Indian and foreign.

The Central Institute of Indian Languages has initiated the Phonetic Reader Series in Indian languages with a view to presenting the range of phonetic variation obtaining in this sub-continent and demonstrating the closeness of languages on the basis of phonetic patterning. These Readers are biased towards learning the sound system of languages. Thus it is hoped that this series will be of interest to both scholars who are interested in Phonetic studies and practical learner of languages who wish to make a beginning in their language study.

The Central Institute of Indian Languages undertook to study Kũṛux in response to a request made by the State Government. Francis Ekka who was deputed for this purpose, has prepared a Phonetic Reader, a Descriptive Grammar and a Volume of Folktales. The grammar and folktales will be published shortly by the Institute along with instructional material designed for beginning levels. If these materials help solving the problems in the State and help in understanding the people speaking the language, then our efforts will have been amply rewarded.

(E. Annamalai)
DIRECTOR

PREFACE

. The tribal people in India have for long lived in isolation except to be exposed for exploitation. They have not participated to their benefit in the socio-economic development of the country. To come out of their isolation, it is necessary for them to learn the language of the majority people around them and a number of them have done so. But this bridges the communication gap only in one way and the whole burden of building up this bridge is carried by the minority group. It is necessary, however, for developing mutual understanding and goodwill, to increase bi-directional communication between the tribal people and the majority people of the region. For this purpose, the majority people, especially those who come into contact with the tribal people for various reasons such as civil administration, security, social service, trade, etc., should learn their language. The Phonetic Reader, which forms part of a package consisting of Grammar, Bi- or Tri-lingual Dictionary and Teaching Manual, is prepared to help them in their learning of the tribal language.

The Phonetic Reader gives a general description of the human speech sounds and the organs of speech that produce them, a detailed description of the production of the sounds of the particular language drills to practice those sounds, the phonemic inventory and an orthography best suited for that language. The general description of the human speech sounds introduces and explains the technical terminology. The description of the sounds of the language under consideration is made lucid enough for the person not trained in linguistics to understand even, perhaps, at the risk of being repetitive at times. After describing how each sound is produced, the technical name of the sound is given for identification and its distribution in a word. This is followed, wherever possible, by a comparison with the similar sound in other languages assumed to be known to the prospective users of the book. Then comes the list of words containing the sounds. This section will help the reader to identify the sounds of the language he is learning and to reproduce them in isolation and in words. Words for drill are given for the learner to practice correct pronunciation and to differentiate between similar sounds.

The script suggested is normally the script of the majority of the official language of the region. This is to take the barrier of script out for the learner from the majority group and more importantly to ease the switch over of the tribal children from their mother tongue to the majority language at some point in their schooling. This will also make biliterate the tribal adults who can already speak the majority language when they are taught reading and writing of their mother tongue. The modifications given are only suggestive and they take into consideration the conventions of the adopted script, the practices already in vogue if the script is being used by the language under consideration and the technological convenience.

Though the Phonetic Reader is primarily aimed at the language learner and teacher, it is hoped that it will be also useful to linguists interested in typology and universals. The section on script will be of interest to language planners.

Except when the writer himself is the native speaker of the language analysed, data are collected in the field primarily from one informant and then checked with a few other informants. Care is taken to transcribe the sounds as accurately as possible. Still some inadvertent lapses might remain. There might still be room for improving the presentation of the material. Comments and suggestions passed on to us will be useful to improve our future publications in the series.

E. Annamalai.

CONTENTS

Foreword ... i

Preface ... iii

Introduction ... 1

Description of Speech Organs ... 5

Speech Organs ... 6

Kũṛux Vowels ... 11

Kũṛux Consonants ... 37

Phonetic Drill ... 88

Kũṛux Phonemes ... 130

Kũṛux and the Devanagari Script ... 148

Bibliography ... 153

Index ... 154

INTRODUCTION

Language is basically a means of communications by which man expresses his ideas in such a way as to be understood by others. The principal languages of the world, including the sixteen officially recognized Indian languages such as, Hindi, Marathi, Bengali, Tamil, etc., are both spoken and written, though a very large number of languages are only spoken.

Kũṛux, which belongs to the North-Dravidian language family, is spoken by a total number of 11,41,804* Kũṛux people (also known as Oraon), living mainly in the adjoining districts of the States of Uttar Pradesh, Bihar, West Bengal, Orissa and Madhya Pradesh. Outside this area, it is spoken by immigrants most of whom work as labourers in Maharashtra, Tripura and Nagaland and in the tea-gardens of Assam and West Bengal. Outside India, a good number of Kũṛuxs live in Nepal, Bhutan and Bangladesh.

---

*This figure is from the Census of India, 1961. The 1971 Census Report lists only 11,32,931 Kũṛux speakers which is erroneous as it does not account for the Kũṛux speaker of Madhya Pradesh who form the second largest Kũṛux speaking population in the country.

This book is intended to be a guide for the non-Kũṛux adults who need to learn the Kũṛux language to work among the Kũṛux people. It will be particularly useful to those Kũṛuxs who teach the Kũṛux language to the non-Kũṛux adults in various training and orientation centres. They need to know basic functions of the speech organs that are involved in the production of speech sounds as to be able to identify and correct the pronunciations. Since it attempts to give a detailed phonetic description of each Kũṛux segmental sound, this book may be useful for professional linguists interested in language typology and universals.

In this book we will deal with the phonetics of Kũṛux which represents my own speech. We will explain how a learner should acquire correct pronunciation of each of the sounds. It is always useful to transcribe the sounds of a language in the phonetic alphabet in which each symbol or letter represents one and the only one sound wherever it occurs. Phonetic symbols are written between square brackets and represent sound as they are actually pronounced by the speaker. Phonetic values of the symbols will be explained when we deal with them in the following chapters.

In order to learn a language one must pronounce correctly the sounds which constitute words along with the intonation and the rhythm of the sentence. It is important to keep in mind that each language has its own set and system of sounds different from others. This point should particularly be emphasized for those learners of Kũṛux who speak one of the Indo-Aryan languages. Kũṛux has borrowed a considerable number of words from its neighbouring Indo-Aryan and Munda group of languages and the speakers of these languages are likely to pronounce the sounds of such borrowed words like the sounds in their own language. They should always remember that the sounds of such borrowed words are modified in Kũṛux in accordance with its sound system.

This book is organized in the following way: Chapter-1 gives general introduction to the organs of speech. Chapters-2 and 3 present the phonetic description of the Kũṛux vowel and consonant sounds respectively. The sounds which share some phonetic feature but differ in one or two features are described in relation to each other. Chapter-4 presents a list of words for oral practice. Chapter-5 presents a list of Kũṛux phonemes. Chapter-6 shows how the Kũṛux phonemes can be represented with the Devanagari letters.

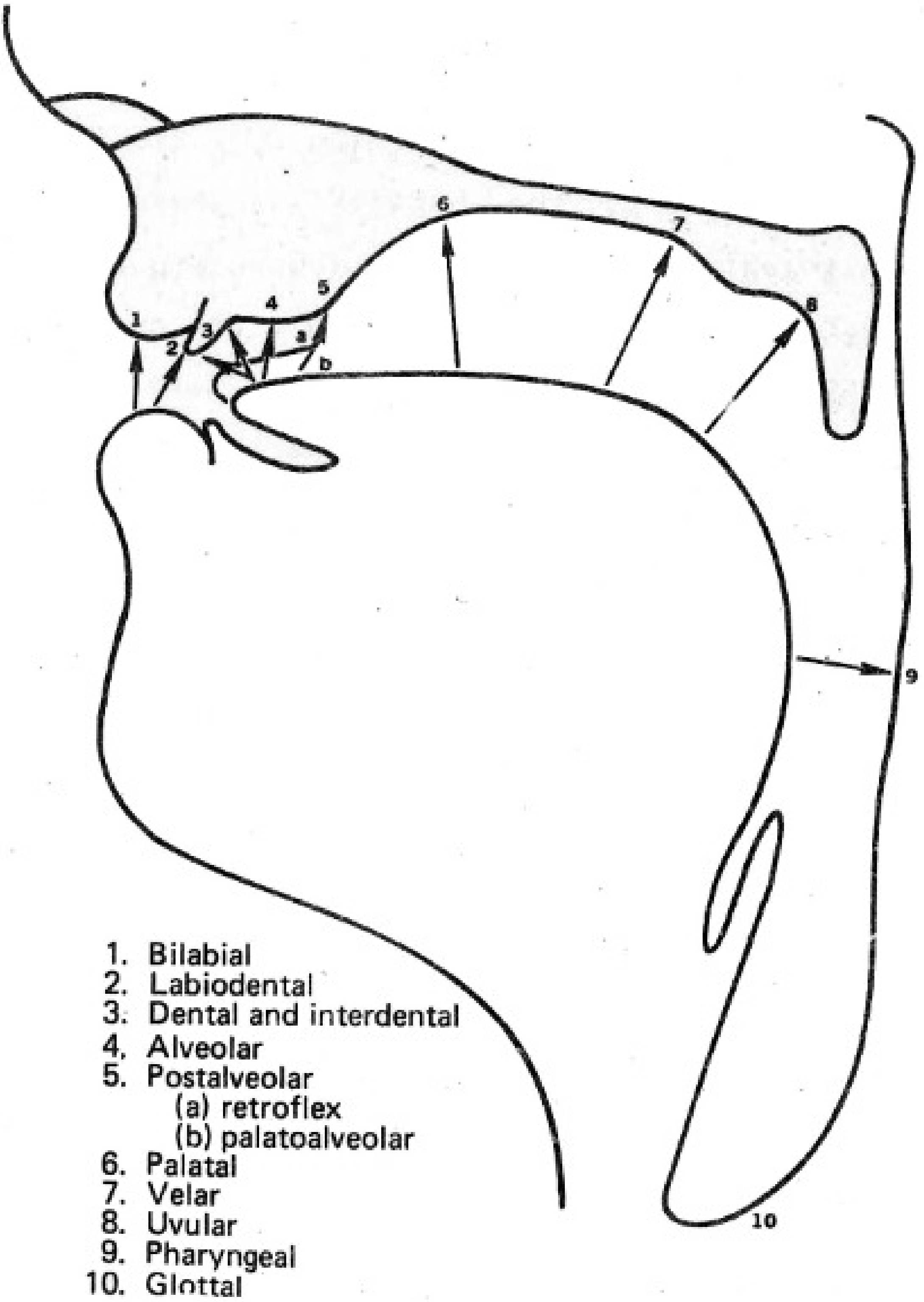
I am indebted to Dr. D.P. Pattanayak who initiated this project; to Dr. E. Annamalai for his supervision and numerous suggestions on the original draft; to Dr. B.G. Misra for his valuable suggestions on the use of the Devanagari letters for Kũṛux and to other members of the academic staff of the Central Institute of Indian Languages for their help and co-operation.

My thanks are also due to Mr. V. Gopal for having neatly type-composed the manuscript.

- - - -

DESCRIPTION OF SPEECH ORGANS

SPEECH TRACT



1. Bilabial
2. Labiodental
3. Dental and interdental
4. Alveolar
5. Postalveolar
    (a) retroflex
    (b) palatoalveolar
6. Palatal
7. Velar
8. Uvular
9. Pharyngeal
10. Glottal

A preliminary list of some places of articulation.

1. SPEECH ORGANS

Speech sounds are produced by stopping at various points the air stream that comes out of the lungs and passes through the mouth, or through both mouth and nose. Or they are produced by modifying the shape of the passage through which the air stream flows. Organs situated along the path of the air stream are the speech organs used for the production of speech sounds which are described in detail in the following pages.

Fig.1 presents the sagittal section of the speech tract or the organs of speech that consists of the movable parts in the oral cavity, the nasal cavity, the larynx and the pharynx. Lungs from which the air stream originates are not shown in the figure.

The point where the air stream is first modified rests at the top of the windpipe which ends in a bony structure called *larynx.* The larynx contains *vocal cords* (15 in Fig.1) which are like small lips projecting from the sides of the larynx. These are connected with muscles which bring them close together in such a way as to place them edge to edge in the middle of the air passage, or draw apart to have a wide opening between them. The space between the two cords is called *glottis* (14 in Fig.1).

When the vocal cords are kept apart, the air stream passes through the open glottis. The passing of the air stream through the open glottis produces an *h*- like sound audible from the mouth while breathing. The speech sounds produced with the open glottis are called voiceless. On the other hand, when the vocal cords are brought together edge to edge, the pressure of the air from below causes the cords to vibrate. The speech sounds so produced are called voiced. The vibration may be felt by placing a finger at the bottom of the throat.

At the top of the pharynx the air stream may pass either through the mouth or the nasal cavity, or through both. When the air stream passes only through the mouth, the back part of the palate, called *soft palate* or *velum* (10 in Fig.1), moves upwards and backwards and touches against the back wall of the throat, thereby preventing the air stream from passing through the nasal cavity. When the oral passage is blocked by moving the soft palate downwards and the *back of the tongue* or *dorsum* (6 in Fig.1) upwards to touch against each other, then the air stream passes through the nasal cavity.

The soft palate is the extreme back of the upper palate. The *hard palate* (9 in Fig.1) is in front of the soft palate. This is the part of the palate of hard bone thinly covered with tissue. One can feel the difference in texture between the hard and the soft palate easily with a finger by pressing it against the roof of the mouth behind the teeth and letting it slide backwards. As their names indicate, they have hard and soft texture. In front of the hard palate and behind the *upper front teeth* (2a in Fig.1), is the *alveolar ridge* or *teeth ridge* (8 in Fig.1).

The tongue is a very important speech organ in the mouth. It is a compact mass of muscular tissue capable of moving rapidly and of assuming different shapes and positions. It is convenient to divide the surface of the tongue into five parts; the tip of the tongue; blade of the tongue, front of the tongue, back of the tongue and root of the tongue. *Tip of the tongue* (3 in Fig.1) is the extreme frontal end of the tongue. It articulates against the upper teeth, alveolar ridge and hard palate. *Blade of the tongue* (4 in

Fig.1) is the portion lying just behind the tip of the tongue. It articulates against the alveolar ridge and the hard palate. *Front of the tongue* (5 in Fig.1), also called *middle* or *centre of the tongue,* is the portion lying behind the blade of the tongue. It articulates against the hard palate. *Back of the tongue* (6 in Fig.1), also called *dorsum,* is the portion behind the front of the tongue lying just opposite to the soft palate. It articulates against the soft palate. Besides, *root of the tongue* (7 in Fig.1) which is the portion behind the *back of the tongue* can be moved backward to narrow the shape of the pharynx.

The lower jaw, not labelled in Fig.1, plays an important role in the production of speech sounds, especially vowels. It is capable of altering the shape of the oral cavity considerably by moving up and down. Also, the movements of the jaw influence the position of the lips (1a and 1b in Fig.1) which are important for determining the shape of the opening through which the air stream passes out.

Velic (12 in Fig.1) is the passage in the upper part of the pharynx. When it is closed, the air stream cannot pass through the nasal cavity, and the speech sounds so produced are called oral, and those with velic open are called nasal or nasalized.

Uvula and epiglottis (11 and 13 respectively in Fig.1) are not involved in the production of any Kũṛux sound described in this reader.

- - - -

2. KŨṚUX VOWELS

Speech sounds are generally classified on the basis of the manner of their production into two natural divisions, namely, vowels and consonants. Vowel is a sound during whose production the air stream passing through the oral passage remains unobstructed, but its shape is modified by the movements of the tongue and the lips. The most important speech organ that modifies the shape of the oral passage is the tongue. By moving the tongue up and down and back and forth one can form many different resonance chambers or shapes in the oral cavity to produce a variety of vowel sounds. Lips also play an important role in determining the shape of the resonance chamber.

Vowel sounds are classified in terms of the part and height of the tongue involved in modifying the oral passage, shape of the lips, opening of the nasal passage and the duration for which the tongue and the lips are held in a particular position.

Kũṛux vowels will be described in the following pages as high, lower high, higher mid, mean mid, lower mid and low on the basis of the relative height of the tongue. They will be called front or back depending upon the part of tongue involved in the articulation. Vowels will be called oral if the velic or the nasal passage is closed for the air stream to pass only through the oral cavity. If the velic is open, then the air stream passes simultaneously through both oral and nasal cavities. The vowels so produced will be called nasal vowels. While producing a vowel the tongue may be held for a relatively longer time at a particular position. Such vowels will be called long in contrast to short vowels for which the tongue stays at a particular position for a shorter duration. The vowels will also be divided into syllabic and non-syllabic vowels. The syllabic vowels are relatively sonorous or prominent and form the peak of the syllable. The non-syllabic vowels are less sonorous or less prominent and they do not form the syllabic peak.

2.1. In the sections that follow we will deal first with the syllabic and then with the non-syllabic vowels. Under each head, we will first deal with the short vowels and then the long vowels. Again, under each of these two heads, we will first deal with the oral vowels and then the nasal vowels.

2.1.1. Syllabic Vowels

Short Vowels:

Vowel sounds described in this section are called short because during their production the tongue stays at particular positions in the oral cavity for a short duration. They are both oral and nasal.

Oral Short Vowels:

Vowels are called oral because during their production, as stated earlier, the velic is closed so that the air stream passes out only through the oral cavity. In the following diagram is the inventory of the oral short vowels shown along with the approximate heights in the oral cavity to which the tongue is moved during their production.

		Front	Back
High	...	i	u
Lower High	...	I	U
Higher Mid	...	e	o
Mean Mid	...	E	∩
Lower Mid	...		A
Low	...		a

Syllabic Short Oral Vowels:

Vowel [i]:

To produce this sound the blade of the tongue is raised very close to the hard palate. The tongue position is the highest of all the vowels produced by raising the front part of the tongue. The lower jaw is raised so that the upper and the lower teeth are almost in occlusion. Lips are not rounded.

This sound is called *high front unrounded oral short vowel.*

It resembles the Hindi sound represented by the Devanagari letter ई (i.e., its matra) in the word final position.

It occurs only finally in a word -

[bAli]	'door'
[bAṛi]	'arm'
[mu:xi]	'she/it eats'
[nAli]	'she/it dances'
[sAnni]	'small'

Vowel [I]:

In producing this sound the front of the tongue is raised toward the hard palate, but is kept lower than it is for [i]. The jaw is lowered. Lips are not rounded.

This sound is called *lower high front unrounded oral short vowel.*

It resembles the vowels of the English words *pit, fit, sit,* etc. This sound occurs initially and medially in a word.

[Idna]	'this year'
[IsAn]	'here'
[Inna]	'today'
[pIsa]	'later'
[tIssa]	'sour'

Vowel [e]:

To produce this sound the front of the tongue is brought somewhat nearer to the front of hard palate, while the jaw is slightly raised. The position of the tongue is lower than it is for [I]. Lips are not rounded.

This sound is called *higher mid front unrounded oral short vowel.*

It resembles the Hindi vowel represented by the Devanagari letter ए (i.e., its matra) in the word final position.

It occurs only finally in a word -

[Eka:se]	'how'
[bAne]	'nice'
[gAlle]	'cheek'

[na:me]	'name'
[lAjje]	'shame'

Vowel [E]:

In producing this sound the blade of the tongue is raised toward the front of the hard palate in the same manner as it is done for producing [e]. However, the tongue is positioned at a height lower than the height for [e]. Lips are not rounded.

This sound is called *mean mid front unrounded oral short vowel.*

It resembles the vowels of the English words, *bet, met, set,* etc.

It occurs initially and medially in a word -

[Ekla]	'alone'
[Ema]	'for us'
[Endra]	'what'
[Eṛpa]	'house'
[Eṛgo]	'mouse'

Vowel [u]:

To produce this sound the back of the tongue is raised very close to the velum. The position of the tongue is the highest of all the vowels produced by the back part of the tongue.

Lips are rounded.

This sound is called *high back rounded oral short vowel.* It resembles the Hindi vowel represented by the Devanagari letter उ (i.e., its matra) in the word final position.

It occurs only finally in a word -

[Alu]	'potato'
[Aru]	'yam'
[pUtu]	'a kind of mushroom'
[bhAṭu]	'elder sister's husband'
[bhUṛu]	'ant-hill'

Vowel [U]:

In producing this sound the back of the tongue is raised toward the soft palate. In doing so, the tongue is lower than it is for [u]. Lips are rounded moderately.

This sound is called *lower high back rounded oral short vowel.*

It resembles the vowel in the English words *put, good, book,* etc.

It occurs initially and medially in a word -

[Ula]	'inner house'
[Urmi]	'all things'
[pUḍḍa]	'short'

[pỤna]	'new'
[hUsAn]	'there (intermediate)'

Vowel [o]:

To produce this sound the back of the tongue is raised toward the soft palate, but in doing so it remains lower than it is while producing [U]. Lips are moderately rounded.

This sound is called *higher mid back rounded oral short vowel.*

It resembles the Hindi vowel represented by the Devanagari letter ओ (i.e., its matra) in the word final position.

It occurs only finally in a word -

[Aḍḍo]	'ox'
[pEllo]	'girl'
[bo:lo]	'young'
[kAkṛo]	'crab'
[moxa:ro]	'black'

Vowel [ᴖ]:

To produce this sound the back of the tongue is raised toward the soft palate. While doing so the tongue is kept lower than it is for [o]. Lips are moderately rounded.

This sound is called *mean mid back rounded oral short vowel.*

It occurs only initially and medially in a word -

[ᴖla]	'den'
[ᴖrmAr]	'all men and/women'
[ᴖrᴖx]	'nail'
[bᴖra]	'sack'
[xᴖcᴖl]	'bone'

Vowel [a]:

In producing this sound the root of the tongue is slightly pushed backward in such a way that the tongue height remains lowest of all the vowels. Lips are not rounded.

This sound is called *low back unrounded oral short vowel.*

It resembles the Hindi vowel represented by the Devanagari letter आ (i.e., its matra) in the word final position.

It occurs only finally in a word -

[Alla]	'dog'
[Aṛxa]	'green'
[bErxa]	'cat'
[mAnxa]	'buffalo'
[ma:xa]	'dark'

Vowel [A]:

To produce this sound the tongue is slightly pushed backward in such a way that the tongue height is slightly higher than it is for [a].

This sound is called *lower mid back unrounded oral short vowel.*

It resembles the vowel in the English words *cut, shut, but,* etc.

It occurs initially and medially in a word -

[Atxa]	'leaf'
[Ahṛa]	'meat'
[tAtxa]	'tongue'
[ṭAṭxa]	'mango'
[mAla]	'no'

Nasal Short Vowels:

The nasal vowels presented in the following diagram are produced exactly like their corresponding oral vowels described above, except that during their production the velic is kept open for the air stream to pass through both oral and nasal cavities. The symbol '~' indicates that the vowel is nasalized .

		Front	Back
High	...	ĩ	ũ
Lower High	...	Ĩ	Ũ
Higher Mid	...	ẽ	õ
Mean Mid	...	Ẽ	ɔ̃
Lower Mid	...		Ã
Low	...		ã

Syllabic Short Nasal Vowels:

Vowel [ĩ]:

This sound is produced exactly like [i] except that the soft palate is not raised so that the air stream flows both through the oral and nasal cavities.

This sound is called *high front unrounded nasal short vowel.*

It occurs only finally.

[hAʔĩ]	'is that so?'

Vowel [Ĩ]:

The articulatory movements involved in the production of this sound are identical to those of [I] except that the nasal passage is kept open by lowering the soft palate for the air stream to pass through.

This sound is called *lower high front unrounded nasal short vowel.*

It occurs only medially.

[pĨṛi]	'name of a village'

Vowel [ẽ]:

The articulatory movements for the production of this sound are identical to those of [e] except that the velic is open for the air stream to pass through.

This sound is called *higher mid front unrounded nasal short vowel.*

It occurs only finally.

[pAhẽ]	'but'
[kEhẽ]	'perhaps'

Vowel [Ẽ]:

This sound is produced exactly like [E] except that the velic is kept open by lowering the soft palate for the air stream to pass through.

This sound is called *mean mid front unrounded nasal short vowel.*

It occurs initially and medially.

[ẼṛẼspẼṛẼs]	'discomfort'
[cẼṛa]	'young'

Vowel [ũ]:

The articulatory movements for the production of this sound are identical to those of [u] except that the velic is open.

This sound is called *high back rounded nasal short vowel.*

It occurs only finally.

[hũ]	'also'

Vowel [Ũ]:

The articulatory movements for the production of this sound are similar as for [U] except that the velic is open so that the air stream passes through it.

This sound is called *lower high back rounded nasal short vowel.*

It occurs only medially.

[kŨṛa]	'largest earthen pot'

Vowel [õ]:

This sound is produced exactly like [o] except that the velic is open for the air stream to pass through.

This sound is called *higher mid back rounded nasal short vowel.*

It occurs only finally.

[tA?õ]	'name of a bird'
[kEhõ]	'perhaps'
[c∩hõ]	'on the shoulder'

Vowel [∩̃]:

The articulatory movements involved in the production of this sound are identical to those of [∩] except that the velic is kept open for the air stream to pass through.

This sound is called *mean mid back rounded nasal short vowel.*

It occurs only medially.

[kᴖ̃hṛa]	'cucumber'
[gᴖ̃hṛa]	'crowd'

Vowel [ã]:

The articulatory movements involved in the production of this sound are identical to those of [a] except that the velic is open for the stream to pass through.

This sound is called *low back unrounded nasal short vowel.*

It occurs only finally.

[kᴖhã]	'big'
[hAʔã]	'yes'

Vowel [Ã]:

This sound is produced exactly like [A] except that the velic is kept open for the air stream to pass through.

This sound is called *lower mid back unrounded nasal short vowel.*

It occurs initially and medially.

[Ãṛku]	'testicles'
[ÃṛsIkAn]	'I reached'

[pÃṛki]	'pigeon'
[bÃṛa]	'hog'

Long Vowels:

The vowels described in this section are called long because during their production the tongue stays at a particular position in the oral cavity for a long duration than for the short vowels described above. Long vowels are marked with the symbols ':'. There are both oral and nasal long vowels like the short vowels, but not all the short vowels have corresponding long vowels.

Long Oral Vowels:

The following is the inventory of the Kurux long oral vowels.

		Front	Back
High	...	i:	u:
Higher Mid	...	e:	o:
Low	...		a:

Syllabic Long Oral Vowels:

Vowel [i:]:

The articulatory movements involved in the production of this sound are identical to those for [i], except that the duration for which the tongue is held at the high position is longer.

This sound is called *high front unrounded oral long vowel.*

It resembles that the Hindi vowel represented by the Devanagari letter ई .

It occurs initially, medially and finally.

[i:ma]	'white ant'
[i:r]	'these people'
[ki:ba]	'snow'
[ni:n]	'you (singular)'
[i:]	'this (proximate)'

Vowel [e:]:

The articulatory movements involved in the production of this sound are identical to those of [e], except that the duration for which the tongue is held at the higher mid position is longer.

This sound is called *higher mid front unrounded oral long vowel.* It resembles the Hindi letter represented by the Devanagari letter ए or its matra.

It occurs initially, medially and finally.

[e:n]	'I'
[e:ṛa]	'goat'
[me:r]	'thread'
[ne:la]	'tomorrow'

[ne:]	'who'

Vowel [u:]:

This sound is produced exactly like [u], except that the duration for which the tongue is held at the high back position is longer.

This sound is called *high back rounded oral long vowel.*

It resembles the Hindi vowel represented by the Devanagari letter ऊ .

It occurs initially, medially and finally.

[u:x]	'half ripe'
[u:xa]	'dark'
[mu:ka]	'knee'
[mu:xa]	'frog'
[hu:]	'that (intermediate)'

Vowel [o:]:

This sound is produced exactly like [o] except that the duration for which the tongue is held at the higher mid position is longer.

This sound is called *higher mid back rounded oral long vowel.*

It occurs only initially and medially.

[o:ṛa]	'bird'

[o:sa]	'a kind of mushroom'
[xo:xa]	'behind'
[xo:r]	'tender shoot'
[mo:ṛa]	'grain basket'

Vowel [a:]:

The articulatory movements involved in the production of this sound are identical to those of [a] except that the duration for which the tongue is held at the low back position is longer.

This sound is called *low back unrounded oral long vowel.*

It resembles the Hindi sound represented by the Devanagari letter आ.

It occurs initially, medially and finally.

[a:s]	'he, that man'
[a:las]	'man'
[ma:xa]	'night'
[ma:si]	'black gram'
[a:]	'that (distant)'

Long Nasal Vowels:

The following is the inventory of the Kũṛux nasal long vowels.

		Front	Back
High	...	ĩ:	ũ:
Higher Mid	...	ẽ:	õ:
Low	...		ã:

Syllabic Nasal Long Vowels:

Vowel [ĩ:]:

This sound is produced exactly like [i:] except that the soft palate remains low which allows the air stream to flow through the nasal passage. This sound is called *high front unrounded nasal long vowel.* It occurs only medially.

[pĩ:ṛi]	'twisted cotton'
[bĩ:ṛi]	'queen'

Vowel [ẽ:]:

The articulatory movements involved in the production of this sound are identical to those of [e:], except that the nasal passage is left open for the air stream to pass through. This sound is called *higher mid front unrounded nasal long vowel.* It occurs initially and medially.

[ẽ:ṛ]	'two'
[pẽ:ṛhe]	'flute'

Vowel [ũ:]:

This sound is produced exactly like [u:] except that the nasal passage is left open for the air stream to pass through. This sound is called *high back rounded nasal long vowel.* It occurs initially and medially.

[ũ:ṭ]	'camel'
[pũ:p]	'flower'

Vowel [õ:]:

The articulatory movements involved in the production of this sound are identical to those of [o:] except that the nasal passage is left open for the air stream to pass through. This sound is called higher mid back rounded long nasal vowel. It occurs initially and medially.

[õ:ṭ]	'a creeper'
[kõ:ṛa]	'corner'

Vowel [ã:]:

The articulatory movements involved in the production of this sound are identical to those of [a:] except that the nasal passage is kept open for the air stream to pass through. This sound is called *low back unrounded nasal long vowel.* It occurs initially and medially.

[ã:ṛko]	'a measure equivalent to one seer'
[kã:ṛ]	'wooden rafter'

2.1.2. Non-syllabic Vowels

Vowels sound described in this section are relatively less sonorous or less prominent than those described above. When pronouncing these vowels one can feel the change in resonance. These vowels are always contiguous to the sonorous ones, and are pronounced along with them without a break in between. For instance, in the English word *high*, pronounced as [hai], the production of the first vowel [a] starts with a fairly open mouth and ends with a smaller opening of the mouth producing [i]. The first vowel is pronounced more prominently than the second. There is no sudden break between them, but the tongue moves gradually from one position to another. In the description that follows, the non-syllabic vowels will be marked with the symbol '^' below the vowel.

The non-syllabic vowels of Kũṛux may be either short or long, each of which may be again oral or nasal.

Non-syllabic Short Vowels:

Oral Vowels:

The following is the inventory of the non-syllabic short oral vowels.

		Front	Back
Lower High	...	I̭	Ṷ
Mean Mid	...	Ḙ	Ω̭

Vowel [I̯]:

The articulatory movements for the production of this sound are identical to those of [I], except that it is less prominent.

This sound is called *lower high front unrounded non-syllabic oral short vowel.*

It occurs after the syllabic vowels [I], [A] and [U].

[II̯a:d]	'memory'
[tAI̯dAn]	'I send'
[pAI̯ha]	'wheel'
[UI̯dAn]	'I keep'

Vowel [E̯]:

The articulatory movements for the production of this sound are identical to those of [E] except that it is less prominent.

This sound is called *mean mid front unrounded non-syllabic oral short vowel.*

It occurs after the syllabic vowels [A], [a:], [∩] and [o:].

[kAE̯r]	'anger'
[gAE̯a]	'castrated fowl'
[ba:E̯]	'daily wage'
[x∩E̯dAn]	'I reap'
[o:E̯]	'cow/ox'

Vowel [U̯]:

The articulatory movements for the production of this sound are identical to those of [U], except that it is less prominent.

This sound is called *lower high back rounded non-syllabic oral short vowel.*

It occurs after the syllabic vowels [I] and [A].

[nIU̯r]	'fire'
[AU̯la]	'that day'
[AU̯r]	'and/more'

Vowel [ᴖ̯]:

This sound is pronounced exactly like [ᴖ] but with less prominence.

It is called *mean mid back rounded non-syllabic oral short vowel.*

It occurs after the syllabic vowels [E], [A] and [a:].

[Eᴖ̯nda]	'how much'
[Aᴖ̯sa:n]	'strength'
[Aᴖ̯lˀa:dAn]	'I yawn'
[Aᴖ̯kˀa:dAn]	'I guess'
[bha:ᴖ̯]	'market rate'

Nasal Vowels:

The following is the inventory of the

non-syllabic nasal short vowels. They are followed by either word juncture or the syllabic vowel [a], but never by a consonant.

		Front	Back
Lower High	...	Ĩ̯	Ũ̯
Mean Mid	...	Ẽ̯	C̯̃

Vowel [Ĩ̯]:

The articulatory movements involved in the production of this sound are identical to those of [Ĩ], except that it is less prominent.

It is called *lower high front unrounded non-syllabic nasal short vowel.*

It occurs after the syllabic vowels [I] and [A].

[cIĨ̯a]	'chicken'
[mAĨ̯a]	'girl baby'

Vowel [Ẽ̯]:

This sound is pronounced exactly like [Ẽ], but with less prominence.

It is called *mean mid front unrounded non-syllabic nasal short vowel.*

It occurs after the syllabic vowels [A], [o:], and [a:].

[mAẼ̯a]	'kindness'
[do:Ẽ̯]	'mahua fruit'
[ma:Ẽ̯a]	'brewed rice in the rice-beer'
[bha:Ẽ̯]	'soon'

Vowel [Ũ̯]:

The articulatory movements for the production of this sound are identical to those of [Ũ], except that it is less prominent.

It is called *lower high back rounded non-syllabic nasal short vowel.*

It occurs after the syllabic vowel [A].

[nAŨ̯a]	'barber'

Vowel [ɔ̯̃]:

This sound is pronounced exactly like [ɔ̃], but with less prominence.

It is called *mean mid back rounded non-syllabic nasal short vowel.*

It occurs after the syllabic vowels [A] and [E].

[sAɔ̯̃a]	'a kind of grain'
[Eɔ̯̃]	'how much'

Non-syllabic Long Vowel:

The following is the only non-syllabic long vowel.

		Front	Back
Lower High	...	I̯:	

Oral Vowel [I̯:]:

The articulatory movements for the production of this sound are identical to those of [I] except that it is long and less prominent.

It is called *lower high front unrounded non-syllabic oral long vowel.*

It occurs after the syllabic vowels [I] and [A].

[kII̯:a]	'below'
[xAI̯:a]	'it got dry'
[tAI̯:a]	'you (mas.sg.) send (imp.)'

- - - -

3. KŨṚUX CONSONANTS

During the production of a consonant sound the flow of the air stream is stopped or impeded by completely closing or by narrowing the air passage. Consonant sounds are classified on the basis of the nature and the place of these obstructions, that is, on the basis of their manner of articulation and point of articulation.

The consonant sounds produced by complete closure and sudden release of the air stream are called *stops*, those produced with partial closure are called *fricatives* and those produced with open nasal passage are called *nasals*. The consonant sounds produced with complete closure and simultaneously followed by an articulation producing a fricative sound are called *affricates*. The consonant sounds for whose production the air stream is blocked along the centre line of the oral cavity, but is allowed to pass through the sides are called *laterals*. The consonant sounds during whose production an elastic speech organ vibrates rapidly are called *trills*, and those produced by a single articulatory movement in which an articulator taps some part of the vocal organ as it passes by are called *flaps* (Pike, 1958). Within each of these main classes, that is, stop, fricative, affricate, nasal, trill, lateral and flap, there are further sub-classes depending on the place where the obstruction takes place. The consonant produced with the contact of the two lips is called *bilabial*, that produced by the tip of the tongue touching the teeth is called *dental*, and that produced by the curled tip of the tongue touching the hard palate is called *retroflex*. Further classifications of the consonant sounds are the *palatal*, produced by the middle of the tongue touching the hard palate, the *velar*, produced by the back of the tongue touching the soft palate or velum, and the *glottal* produced at the glottis.

The quality of a consonant sound is determined by other articulatory modifications also. The consonant during whose production the release of the air is accompanied by a heavy puff of air is called *aspirated*, and that whose production is not accompanied by it is called *unaspirated*. The consonant during whose production the vocal cords are drawn close to each other so that the out-coming air stream causes to vibrate is called *voiced*. The consonant produced without the vibration of the vocal cords is called *voiceless*. The consonant produced with a brief compression of the air stream is called *short*, and that with long compression is called *long*.

3.1. If we classify all Kũṛux consonant sounds into stops, affricates, fricatives, nasals, laterals, trills, and flaps, and then subclassify them according to the points of articulation and on the basis of whether they are aspirated or unaspirated, into voiced or voiceless and short or long, we get the following Table. Kũṛux stop consonant sounds are described below under short and long categories, each of which is further sub-divided into voiceless and voiced, which are again sub-divided into unaspirated and aspirated.

Manner of articulation	Point of articulation	Short				Long			
		Voiceless		Voiced		Voiceless		Voiced	
		Unaspirated	Aspirated	Unaspirated	Aspirated	Unaspirated	Aspirated	Unaspirated	Aspirated
	Bilabial	p	ph	b	bh	pp	pph	bb	bbh
	Dental	ṭ	th	d	dh	tt	tth	dd	ddh
Stops	Retroflex	ṭ	ṭh	ḍ	ḍh	ṭṭ	ṭṭh	ḍḍ	ḍḍh
	Velar	k	kh	g	gh	kk	kkh	gg	ggh
	Glottal	ʔ							
Fricative	Dental	s				ss			
	Velar	x							
	Glottal	h							
Affricates	Palatal[1]	c	ch	j	jh	cc	cch	jj	jjh

Nasals	Bilabial	m	mm
	Dental	n	nn
	Retroflex	ṇ	ṇṇ
	Palatal	ñ	ññ
	Velar	ṅ	ṅṅ
Trills	Alveolar	r	rr
Laterals	Alveolar	l	ll
Flap	Retroflex	ṛ	ṛṛ

---

1. Consonants of this series may be narrowly transcribed as [t͜s], [t͜sh], [d͜z], [d͜zh], [tt͜s], [tt͜sh], [dd͜z] and [dd͜zh], respectively. These are actually post-alveolar affricates and are produced with very weak friction. I am grateful to Dr. Peter Ladefoged for helping me determine the point and manner of articulation of these sounds.

3.2. Short Stops

3.2.1. Voiceless Unaspirated:

The Stop Consonant [p]:

To produce this sound the out-coming air stream is stopped by closing the lips. Breath pressure is built up behind the closure and then suddenly released as the tongue moves either to produce the next sound, or to a neutral position if this is the final sound of the word. Soft palate is raised to block the entry of the air into the nasal passage. Vocal cords remain apart so that there is no vibration and therefore no voicing. Bilabial occlusion is relatively shorter and its release is not followed by a heavy puff of air.

This sound is called *voiceless unaspirated bilabial short stop.* It resembles the Hindi sound represented by the Devanagari letter प्

It occurs initially, between two vowels, and as the first of second member of the two, three and four consonant clusters.

[pAka]	'fruit'
[pApa]	'bread'
[pũ:p]	'flower'
[ʌpdAn]	'I soak'
[nApdAn]	'I measure'

[ᴖpckAn]	'I soaked'
[ᴖptʔa:dAn]	'I cause one to soak'
[ᴖprtʔa:dAn]	'cause one to soak oneself'
[khArpa]	'sandal'
[sUrpdAn]	'I sip'
[sUrptʔa:dAn]	'I make one to sip'

The Stop Consonant [t]:

To produce this sound the tip of the tongue is placed at the root of the upper front teeth and the air passage is closed. Breath pressure is built up behind this occlusion for a short time, and then released without being followed by a heavy puff of air. Vocal cords are in the normal position and therefore there is no vibration to produce voicing. The soft palate is raised to block the entry of the air into the nasal passage.

This sound is called *voiceless unaspirated dental short stop*. It resembles the Hindi sound represented by the Devanagari letter त् . It occurs initially, between two vowels, finally, and as the first second or third member of the two, three and four consonant clusters.

[ta:ka]	'wind'
[la:ta]	'hole'
[ba:t]	'saying'

[tAtxa]	'tongue'
[mAt-ha]	'drunkard'
[cAtrtˀa:dAn]	'I cause one to clean'
[Akta]	'just now'
[e:ktˀa:dAn]	'I cause one to walk'
[Asrtˀa:dAn]	'I cause one to shiver'

The Stop Consonant [ṭ]:

To produce this sound the tip of the tongue is curled back and made to touch the hard palate and the air passage is closed. Breath pressure is built up behind this closure for a short time, and then released without being followed by a heavy puff of air. Vocal cords remain apart so that there is no voicing. The soft palate is raised to block the entry of the air into the nasal passage.

This sound is called *voiceless unaspirated retroflex short stop.* It resembles the Hindi sound represented by the Devanagari script ट . It occurs initially, between two vowels, finally and as the first member of the two, three and four consonant clusters, and as the second member of the two and three consonant clusters.

[ṭAṭxa]	'mango'
[pAṭa]	'leveller'
[lo:ṭ]	'currency note'

[ko:ṭ]	'coat'
[pAṭdAn]	'I kill'
[sAṭrdAn]	'I come close to'
[pAṭckAn]	'I filled the pit'
[sAṭrʔa:dAn]	'I make one come close to'
[ọṇṇṭa]	'one thing'
[AṇṇṭsAṇṇṭ]	'abuse'

The Stop Consonant [k]:

To make this sound the outcoming air stream is stopped by raising the back part of the tongue to touch the anterior part of the soft palate or velum. Breath pressure is built up for a short time behind this velic occlusion, and then released without being followed by a heavy puff. The soft palate is raised to stop the entry of the air stream into the nasal passage. Vocal cords remain apart so that they do not vibrate to produce voicing.

This sound is called *voiceless unaspirated velar short stop*. It resembles the Hindi sound represented by the Devanagari letter क्. It occurs initially, between two vowels, finally, as the first member of the two, three and four consonant clusters, and as the last member of three consonant clusters.

[kAka]	'father's younger brother'

[ta:ka]	'air'
[e:k]	'one'
[bAksa]	'box'
[bAkli]	'paddy stork'
[e:ktˀa:dAn]	'I make one walk'
[sEkrtˀa:dAn]	'I cause one heat oneself'
[bArka]	'blanket'
[mUrkdAn]	'I cut tree'
[mUrkˀa:dAn]	'I make one cut the tree'
[bArckAn]	'I came'
[bArcki]	'you (non-masc.) came'

The Stop Consonant [ˀ]:

The articulatory organs involved in the production of this sound are the vocal cords. To produce this sound, the glottis, that is, the space between the vocal cords, is completely closed by bringing the vocal cords together, and the air stream is stopped completely. Breath pressure is built up behind this glottal occlusion and then released. Voicing is not possible since it is impossible to hold the vocal cords closed and to vibrate them at the same time. This sound is called *glottal stop*.

This uncommon sound is like the check of breath that almost all persons unconsciously introduce after the short vowels while reading the pair of short and long vowels of the alphabet in Indian languages, such as, [aˀa:], [iˀi:], [uˀu:] etc.

This sound occurs between two vowels and as the first and second member of the two consonant cluster.

[tAˀõ]	'name of a bird'
[cIˀo]	'she/it will give'
[bAˀdAn]	'I say'
[cIˀdAn]	'I give'
[ba:tˀa:dAn]	'I make one say'
[ci:tˀa:dAn]	'I make one give'
[bArˀa:ldAn]	'I am coming'

3.2.2. Voiceless Aspirated[1]:

The Stop Consonant [ph]:

The articulatory movements involved in the production of this sound are identical to those of [p] above, except that the breath pressure built up behind the bilabial occlusion is released with a heavy puff of air.

The sound is called *voiceless aspirated bilabial stop*. It resembles the Hindi sound represented by the Devanagari letter फ् . It occurs initially, between two vowels, finally and as the first member of the two and three consonant clusters.

---

[1] The force of aspiration of an aspirated consonant immediately followed by another consonant in a cluster or by a word juncture is relatively weak.

[phAte:r]	'crack'
[nApha]	'gain'
[sa:ph]	'clean'
[rAph?i]	'it shines'
[rAph?a:dAn]	'I make something shine'

The Stop Consonant [th]:

The articulatory movements for the production of this sound are identical to those of [t̪], except that the air pressure built up behind the dental closure is released with a heavy puff of air.

This sound is called *voiceless aspirated dental short stop*. It resembles the Hindi sound represented by the Devanagari script थ् . It occurs initially, between two vowels, finally and as the first member of the two, three and four consonant clusters.

[thAra]	'plate'
[bAtha]	'pain'
[la:th]	'kick'
[lAthdAn]	'I kick'
[lAtht?a:dAn]	'I make one kick'

[∩thrdAn]	'I take out'
[∩thrtˀa:dAn]	'I cause one to take out'

The Stop Consonant [ṭh]:

This sound is produced exactly like [ṭ] except that the air pressure built up behind the palatal occlusion is released with a heavy puff of air.

This sound is called *voiceless aspirated retroflex short stop.* It resembles the Hindi sound represented by the Devanagari letter ठ It occurs initially, between two vowels, finally, as the first member of the two, three and four consonant clusters, and as the second member of the two consonant cluster.

[ṭha:ṭh]	'health'
[pAṭha]	'name of a disease'
[ṭhAṭhdAn]	'I knock down'
[ṭhAṭhtˀa:dAn]	'I make one knock down'
[nAṭhrtˀa:dAn]	'I cause one perish by himself'
[cEṇṇṭha]	'smart'

The Stop Consonant [kh]:

The articulatory movements involved in the production of this sound are identical to those of [k] except that the breath pressure built up behind the velic occlusion is released with a heavy puff of air.

This sound is called *voiceless aspirated velar short stop.* It resembles the Hindi sound represented by the Devanagari letter ख् . It occurs initially, between two vowels, as the first member of the two, three consonant clusters, and as the second member of the two and three consonant clusters.

[khAsi]	'castrated goat'
[bhAkha]	'language'
[khAkhsi]	'name of a fish'
[lAkhdAn]	'I keep trace of'
[Urkhtʔa:dAn]	'I make one come out'
[bhAkhtʔaAdAn]	'I make one say'
[sIkhrtʔa:dAn]	'I make one learn by oneself'
[pUrkhAr]	'ancestors'
[mElkha]	'throat'
[Urkha]	'she/it went out'
[Aṛkhra]	'parched rice'
[sUrkhʔa:dAn]	'I entangle'

3.2.3. Voiced Unaspirated:

The Stop Consonant [b]:

The articulatory movements involved in the production of this sound are exactly the same as for [p] except that the vocal cords are brought close to each other so that they vibrate and produce voicing.

This sound is called *voiced bilabial unaspirated short stop.* It resembles the Hindi sound represented by the Devanagari letter ब . It occurs initially, between two vowels, finally, as the first member of the two, three and four consonant clusters, and as the second member of the two, three four and five consonant clusters.

[bAla]	'bangle'
[kUba]	'crooked'
[kEbdAn]	'I scold'
[cʌbdAn]	'I bite'
[cʌbtʔa:dʌn]	'I cause one bite'
[dɔbɪ̣ʔa:dʌn]	'I fold'
[cAbrtʔa:dAn]	'I cause one bite oneself'
[ArbII̯As]	'he pressed'
[ArbdAn]	'I press'
[Arbtʔa:dAn]	'I make one press'
[Arbrtʔa:dAn]	'I make one press oneself'

The Stop Consonant [d]:

The articulatory movements involved in the production of this sound are identical to those of [t] above, except that the vocal cords are close to each other so that they vibrate and produce voicing.

This sound is called *voiced dental unaspirated short stop*. It resembles Hindi sound represented by the Devanagari letter द . It occurs initially, between to vowels, finally, as the first member of the two, three and four consonant clusters, and as the second member of the three, four and five consonant clusters.

[dAda]	'elder brother'
[pa:da]	'root'
[na:d]	'devil'
[Id-dAn]	'I plant'
[lAdka]	'weight'
[lAdtˀa:dAn]	'I cause one to load'
[lAdrdAn]	'I climb (on somebody as children) myself'
[Idtˀa:dAn]	'I cause the rain to stop'
[xAnndra]	'she/it slept'
[kUndtˀa:dAn]	'I cause one to mould'
[xAndrtˀa:dAn]	'I make one to sleep'

The Stop Consonant [ḍ]:

This sound is pronounced exactly like [ṭ] except that the vocal cords are brought close to each other so that they vibrate to produce voicing.

This sound is called *voiced retroflexed unaspirated short stop*. It resembles the Hindi sound represented by the Devanagari letter ड् .

It occurs initially and as the first and the second member of the two, three and four consonant clusters.

[ḍa:ṛa]	'branch'
[cIḍra]	'squirrel'
[cAḍra]	'bald'
[kUḍrˀa:dAn]	'I fill the pit (by levelling)'
[kUḍrtˀa:dAn]	'I make one fill the pit (by levelling)'
[khAṇṇḍIkAn]	'I cut (past)'
[khAn̥ṇdtˀa:dAn]	'I make one cut'
[mUṇḍrdAn]	'I have my hair cut'
[khAṇḍrkAn]	'I cut (past) myself'

The Stop Consonant [g]:

This sound is produced as [k] except that the vocal cords remain so close to each other that they vibrate and produce voicing.

This sound is called *voiced velar unaspirated short stop.* It resembles the Hindi sound represented by the Devanagari letter ग् . It occurs initially, between two, three and four consonant clusters, and as the second member of the three and four consonant clusters.

[gEṛa]	'tender wood'

[nAgEṛa]	'drum'
[ne:g]	'custom'
[dAgdAn]	'I set fire'
[o:gdAn]	'I swim'
[ba:grdAn]	'I comb my hair'
[bEṛga]	'fool'
[oṛgdAn]	'I disfigure'
[oṛgtˀa:dAn]	'I make one disfigure'

3.2.4. Voiced Aspirated:

The Stop Consonant [bh]:

This sound is pronounced with the articulatory movements identical to those of [b] except that the breath pressure built up behind the velic closure is released with a heavy puff of air.

This sound is called *voiced bilabial aspirated short stop.* It resembles the Hindi consonant भ्. It occurs initially, between two vowels, finally, and also as the first member of the two, three and four consonant clusters.

[bhAṭhi]	'liquor shop'
[cAbhi]	'key'
[la:bh]	'gain'
[sUbhdi]	'you (non-mas.) look nice'
[bhAbhna]	'rumour'

[te:bht?a:dAn]	'I cause one put the light, fire off'
[lobhrkAn]	'I got attracted'

The Stop Consonant [dh]:

The articulatory movements involved in the production of this sound are identical to those of [d] except that the air pressure built up behind the dental closure is released with a heavy puff of air.

This sound is called voiced *aspirated short dental stop.* It resembles the Hindi sound represented by the Devanagari script ध . It occurs initially, between two vowels, finally, as the first member of the two, three and four consonant clusters, and as the second member of the two and three consonant clusters.

[dhAri]	'edge, beside'
[nAdha]	'leather string'
[bu:dh]	'Wednesday'
[ma:dhri]	'kite'
[bUdhna]	'a person's name'
[mo:dhrkAn]	'I forgot'
[mo:dhrt?a:dAn]	'I make one forget'
[dhUndhra]	'fog'
[sAmdhi]	'son's/daughter's father-in-law'
[sImdh?a:dAn]	'I moisten'

[mUnndh]	'front, before'

The Stop Consonant [ḍh]:

The articulatory movements involved in the production of this sound are identical to those of [ḍ], except that the air pressure built up behind the palatal closure is released with a heavy puff of air.

This sound is called *voiced retroflexed aspirated short stop*. It resembles the Hindi sound represented by the Devanagari script ढ् . It occurs initially and as the first member of the two, three and four consonant clusters.

[ḍhAkna]	'lid, cover'
[ḍhIḍhra]	'flabby'
[sAḍhrdAn]	'I become fat'

The Stop Consonant [gh]:

This sound is pronounced with the articulatory movements identical to those for [g] except that the breath pressure built up behind the velic occlusion is released with a heavy puff of air.

This sound is called *voiced velar aspirated short stop*. It resembles the Hindi sound represented by the Devanagari letter घ् . It occurs initially, between two vowels, finally, as the first member of the two and three consonant clusters and as the second member of the two consonant cluster.

[ghAna]	'biggest hammer'
[ma:ghu]	'name of a person'
[ma:gh]	'Magh month'
[ghAghra]	'name of a village'
[lAghrˀi]	'it burns'
[lAghrtˀa:dAn]	'I make one burn'
[kAṭghAra]	'trap'
[kArgha]	'steep slope'

3.3. Long Stop Consonants[1]

3.3.1. Voiceless Unaspirated Long Stops:

The Stop Consonant [pp]:

The articulatory movements involved in the production of this sound are identical to those for [p] except that the breath pressure built up behind the bilabial closure stays longer.

This sound is called *voiceless bilabial unaspirated long stop.* It occurs between two vowels and as the first member of the two and three consonant clusters.

[xAppa]	'leech'
[nAppa]	'a kind of root'

---

[1] Long consonants occur only after short and tense vowels.

[kAppdAn]	'I catch'
[kAppt?a:dAn]	'I make one catch'

The Stop Consonant [tt]:

This sound is pronounced exactly like [t] with the only exception that the air pressure built up behind the dental closure stays longer.

This sound is called *voiceless dental unaspirated long stop*. It occurs between two vowels and as the first member of the two and three consonant clusters.

[pAtta]	'chisel'
[rItta]	'empty'
[AttdAn]	'I wear'
[pAttdAn]	'I chisel'
[Att?a:dAn]	'I make one wear'

The Stop Consonant [ṭṭ]:

The articulatory movements involved in the production of this sound are identical to those for [ṭ], except that the air pressure built up behind the palatal closure stays longer.

This sound is called *voiceless retroflexed unaspirated long stop*. It occurs between two vowels, and as the first member of the two and three consonant clusters.

[pAṭṭa]	'oil crusher'

[kAṭṭa]	'you (mas.sg.) pass through (imp.)'
[kAṭṭdAn]	'I pass through'
[xAṭṭtˀa:dAn]	'I make one distribute'
[aṭṭtˀa:dAn]	'I make one spread'

The Stop Consonant [kk]:

The sound is pronounced exactly like [k] with the only exception that the breath pressure built up behind the velic occlusion stays longer.

This sound is called *voiceless velar unaspirated long stop.* It occurs between two vowels and as the first member of the two and three consonant clusters.

[bAkka]	'claws of the crab'
[ṭhEkka]	'an earthen pot'
[okkdAn]	'I sit'
[tUkkdAn]	'I push out'
[tukktˀa:dAn]	'I make one push out'

3.3.2. Voiced Unaspirated Long Stops:

The Stop Consonant [bb]:

The articulatory movements for the production of this sound are identical to those for [b] except that the breath pressure built up behind the bilabial closure stays longer in duration.

This sound is called *voiced bilabial unaspirated long stop* in phonetic terminology. It occurs between two vowels and as the first member of the two and three consonant clusters.

[nEbba]	'light in weight'
[sEbba]	'easy'
[jAbbdAn]	'I knock down (fruits of the tree)'
[jAbbtˀa:dAn]	'I make one knock down (fruits of the tree)'

The Stop Consonant [dd]:

The articulatory movements necessary for the production of this sound are similar as for [d], except that the air pressure built up behind the dental closure is longer in duration.

The sound is called *voiced dental unaspirated long stop*. It occurs between two vowels, finally, and as the first member of the two and three consonant clusters.

[pAdda]	'village'
[lEdda]	'newly born'
[xAdd]	'child'
[kUdd-dAn]	'I roam'
[kUddtˀa:dAn]	'I make one roam'

The Stop Consonant [ḍḍ]:

This sound is pronounced exactly like [ḍ] with the only exception that the air pressure built up behind the palatal closure stays longer.

This sound is called *voiced rretroflexed unaspirated long stop.* It occurs between two vowels and as the first member of the two and three consonant clusters.

[pUḍḍa]	'short'
[kUḍḍa]	'navel'
[pUḍḍdAn]	'I become short'
[bUḍḍra]	'it is ruined'
[pUḍḍtˀa:dAn]	'I make one short'

The Stop Consonant [gg]:

This sound is pronounced with the articulatory movements identical to those for [g], except that the breath pressure built up behind the velic occlusion stays longer.

This sound is called *voiced velar unaspirated long stop* in phonetic terminology. It occurs between two vowels and as the first member of the two and three consonant clusters.

[Aggi]	'top, end'
[bAgge]	'more'
[tIgga]	'monkey'
[ṭAggra]	'it is all over'
[lAggtˀa:dAn]	'I make one strike'

3.3.3. Voiceless Aspirated Long Stops:

The Stop Consonant [pph]:

The articulatory movements for the production of this sound are identical to those for [pp], except that the breath pressure built up behind the bilabial occlusion is released with a heavy puff of air.

This sound is called *voiceless bilabial aspirated long stop*. It occurs between two vowels and as the first member of the two consonant clusters.

[dɔppha]	'the point where two roads meet'
[rApphne]	'very tightly'

The Stop Consonant [tth]:

This sound is produced with articulatory movements identical to those for [tt] except that the air pressure built up behind the dental closure is released with a heavy puff of air.

This sound is called *voiceless dental aspirated long stop* in phonetic terminology. It occurs between two vowels, and as the first member of the two consonant cluster.

[kAttha]	'saying'
[ɔtthra]	'she/it took out'
[lAtthra]	'it got kicked'

The Stop Consonant [ṭṭh]:

The articulatory movements for the production of this sound are identical to those for [ṭṭ] except that the air pressure built up behind the palatal occlusion is released with a heavy puff of air.

This sound is called *voiceless retroflexed aspirated long stop.* It occurs between two vowels.

[lAṭṭha]	'pudding'
[ṭhoṭṭha]	'arrow'

The Stop Consonant [kkh];

This sound is produced exactly like [kk] except that the breath pressure built up behind the velic occlusion is released with a heavy puff of air.

This sound is called *voiceless velar aspirated long stop.* It occurs between two vowels and as the first member of the two and three consonant clusters.

[pAkkha]	'small recess in the wall'
[tEkkhra]	'(boil) burst out'
[xAkkhra]	'it is found'
[xAkkhdAn]	'I get'
[xAkkhtˀa:dAn]	'I make one get'
[mEkkhtˀa:dAn]	'I make one fry'

3.3.4. Voiced Aspirated:

The Stop Consonant [bbh]:

This sound is produced exactly like [bb] with the only exception that the air pressure built up behind the bilabial occlusion is released with a heavy puff of air.

This sound is called *voiced bilabial aspirated long stop.* It occurs as the first member of the two consonant cluster.

[lobbhra]	'she/it got attracted'

The Stop Consonant [ddh]:

The articulatory movements for the production of this sound are identical to those for [dd] except that the air pressure built up behind the dental closure is released with heavy puff of air.

This sound is called *voiced dental aspirated long stop.* It occurs as the first member of the two consonant cluster.

[lAddhAṛ]	'lazy'

The Stop Consonant [ḍḍh]:

This sound is pronounced with articulatory movements identical to those for [ḍḍ] except that the air pressure built up behind the palatal closure is released with a heavy puff of air.

This sound is called *voiced retroflexed aspirated long stop.* It occurs between two vowels and as the first member of the two-consonant cluster.

[ḍhAḍḍha]	'a vegetable'
[dAḍḍhra]	'she/it grew fat'
[bAḍḍhra]	'it grew more'

The Stop Consonant [ggh]:

The articulatory movements for the production of this sound are identical to those for [gg] except that the air pressure built up behind the velic occlusion is released with a heavy puff of air.

This sound is called *voiced velar aspirated long stop.* It occurs as the first member of the two consonant cluster.

[lAgghra]	'it burnt'

3.4. Fricatives

As stated earlier, a fricative sound is produced by partial closure of the oral passage. This section deals with the production of the Kũ̄ṛux fricative sounds.

3.4.1. Short Fricatives:

The Fricative Consonant [s]:

To produce this sound the blade of the tongue is brought into contact with the upper teeth and gums laterally. The blade of the tongue is close to the alveolar ridge. This position forms a narrow aperture at the midline of the tongue, so that the air stream flows out through this aperture producing friction. The soft palate is raised to block the entry of the air stream into the nasal passage. The vocal cords are apart, and do not vibrate.

This sound is called *voiceless alveolar short fricative.* It resembles the Hindi sound represented by the Devanagari letter स् . It occurs initially, between two vowels, finally, as the first member of the two, three and four consonant clusters, and as the second member of the two consonant cluster.

[sAkuṛ]	'narrow'
[pAsa]	'hammer'
[a:s]	'he, that(remote) man'
[Asma]	'bread'
[pIsna]	'next year'
[pAsna]	'to beat'
[pAstˀa:dAn]	'I make one beat'
[kAstˀa:dAn]	'I make one grind'
[Asrtˀa:dAn]	'I make one shiver'
[Ibsa]	'thorny grass'
[kAbsi]	'cotton'
[bAksa]	'box'

The Fricative Consonant [x]:

To produce this sound the back of the tongue is raised towards the soft palate to form a narrow aperture between the soft palate and the tongue. The outcoming air stream sequeezes through this aperture producing voicing. Breath pressure is partially built up behind this narrow aperture, then released. The soft palate is riased to block the entry of the air stream into the nasal passage. Vocal cords remain apart and therefore there is no voicing.

This sound is called *voiceless velar fricative.* It resembles the Urdu sound represented by the Devanagari letter ख़ . It occurs initially, between two vowels, finally, and as the first and second member of the two, three and four consonant clusters.

[xe:xEl]	'earth'
[xa:xa]	'crow'
[e:x]	'shadow'
[AxdAn]	'I know'
[Axtˀa:dAn]	'I make one know'
[Axrtˀa:dAn]	'I make one heat oneself'
[cAlxa]	'she/it opened'
[cAlxdAn]	'to open'
[cAlxtˀa:dAn]	'I make one open'

The Fricative Consonant [h]:

To produce this sound the glottis is kept neither too open nor too close. The air stream passes through the narrow opening producing friction. There is no constriction or closure of the oral passage. The soft palate is raised to block the air stream from entering into the nasal passage.

This sound is called *glottal fricative.* It resembles the Hindi sound represented by the Devanagari script ह् . It occurs initially, between two vowels, finally, as the first member of the two, three and four consonant clusters, and as the second member of the two consonant cluster.

[ha:ṛi]	'far'
[la:hi]	'wax'
[da:h]	'deep water'
[da:hdAn]	'I water (the soil)'
[da:htˀa:dAn]	'I make one water (the soil)'
[da:hrtˀa:dAn]	'I make one suffer oneself'
[mAt-ha]	'drunkard'
[lAt-ha]	'weak'

3.4.2. Long Fricatives:

Out of the three Kũṛux fricative consonants described above only [s] has its longer counterpart.

The Fricative Consonant [ss]:

The articulatory movements for the production of this sound are identical to those for [s] except that the air pressure built up behind the narrow aperture stays longer.

This sound is called *voiceless alveolar long fricative.* It occurs between two vowels, finally and as the first member of the two and three consonant clusters.

[pAssa]	'she beat'
[kAssa]	'dirt'
[xEss]	'paddy'
[bAssdAn]	'I light'
[bAsstˀa:dAn]	'I make one light'
[lAsstˀa:dAn]	'I make one tease'

3.5. Affricates

3.5.1. Short Affricates:

Voiceless Unaspirated:

The affricate consonant [c]. To produce this sound the back of the tongue is raised to touch the hard palate, thereby stopping the outgoing air stream. Breath pressure is built up behind this closure for a short time and then released slowly in such a way that some friction is heard. Its release is not followed by heavy puff of air. Soft palate is raised to block the entry of the air stream into the velic. Vocal cords are apart, and therefore do not vibrate.

This sound is called *voiceless palatal unaspirated short affricate.* It resembles the Hindi sound represented by the Devanagari letter च् .

It occurs initially, between two vowels, finally, and as the first member of the two, three and four consonant clusters and as the second member of the two and three consonant clusters.

[ca:ca]	'stone'
[a:c]	'flame'
[kUcdAn]	'I beat'
[mo:cdAn]	'I cut'
[kUctˀa:dAn]	'I cause one to beat'
[kUcrtˀa:dAn]	'I cause one to beat oneself'
[mo:crtˀa:dAn]	'I cause one to cut oneself'
[bAnca]	'it is alright'
[bArca]	'she/it came'
[kAmca]	'she/it made'
[mUrctˀa:dAn]	'I cause one to pluck'

Voiced Unaspirated:

The Affricate Consonant [j]:

The articulatory movements involved in the production of this sound are identical to those of [c] except that the vocal cords are close to each other so that they vibrate and produce voicing.

In phonetic terminology this sound is called *voiced palatal unaspirated short affricate.* It resembles the Hindi sound represented by the Devanagari letter ज् . It occurs initially, between two vowels, finally, as the first and second member of the two, three and four consonant clusters.

[jAta]	'grinding stone'
[sAja]	'name of a tree'
[pa:j]	'kite'
[sAjdAn]	'I put'
[sAjtʔa:dAn]	'I cause one to put'
[sAjrtʔa:dAn]	'I cause one to put oneself'
[mAññja]	'it became'
[mAñjtʔa:dAn]	'I cause one to polish'
[bEñjrtʔa:dAn]	'I make one to get married by himself'

Voiceless Aspirated:

The Affricate Consonant [ch]:

This sound is produced exactly like [c], except that the air pressure built up behind the palatal closure is released with heavy puff.

This sound is called *voiceless palatal aspirated short affricate.* It resembles the Hindi sound represented by the Devanagari letter छ . It occurs initially, between two vowels, finally, as the first member of the two, three and four consonant clusters, and as the second member of the two consonant cluster.

[chAṭka]	'grain basket'
[bAcha]	'calf'
[pu:ch]	'respect'
[pUchdAn]	'I respect'
[IEchdAn]	'I splash liquid'
[gAchrtˀa:dAn]	'I accept'
[gAchrtˀa:dAn]	'I make one accept'
[pEññcho]	'feather'
[gAmcha]	'towel'

Voiced Aspirated:

The Affricate Consonant [jh]:

This sound is produced exactly like [j], but the air pressure built up behind the palatal closure is released with a heavy puff of air.

This is sound is called *voiced palatal aspirated short affricate.* It resembles the Hindi sound represented by the Devanagari letter झ . It occurs initially, between two vowels, finally, and as the first member of the two, three and four consonant clusters.

[jhAra]	'rice beer'
[sAjha]	'cooperative undertaking'
[bu:jh]	'understanding'
[pAjhra]	'spring'
[bUjhrdAn]	'I understand'
[bUjhrtˀa:dAn]	'I make one understand'

3.5.2. Long Affricates:

Voiceless Unaspirated Affricates:

The Affricate Consonant [cc]:

The articulatory movements involved in the production of this sound are identical to those for [c] except that the air pressure built up behind the palatal closure stays longer.

This sound is called *voiceless palatal unaspirated long affricate.* It occurs between two vowels, finally and as the first member of the two and three consonant clusters.

[pAcca]	'old'
[cIcca]	'she/it gave'
[bAccdAn]	'I snatch'

[bAcctˀa:dAn]	'I cause one to snatch'

Voiced Unaspirated:

The Affricate Consonant [jj]:

The articulatory movements for the production of this sound are identical to those for [j] except that the air pressure built up behind the palatal closure stays longer.

This sound is called *voiced palatal unaspirated long affricate.* It occurs between two vowels, finally and as the first member of the two and three consonant clusters.

[Ajji]	'grandmother'
[lAjje]	'shame'
[lAjjra]	'she felt shy'
[kAjjtˀa:dAn]	'I cause one to press'
[ojjtˀa:dAn]	'I cause one to sew'

Voiceless Aspirated:

The Affricate Consonant [cch]:

This sound is produced exactly like [cc] with the only exception that the release of the air pressure built up behind the palatal closure is followed by a heavy puff of air.

This sound is called *voiceless palatal aspirated long affricate.* It occurs between two vowels.

[Eccha]	'she splashed liquid'
[UcchIḶa]	'It is enough (said of any action)'
[gEccha]	'far'
[mEccha]	'high'

Voiced Aspirated:

The Affricate Consonant [jjh]:

The articulatory movements for the production of this sound are identical to those for [jj] except that the release of the air pressure built up behind the palatal closure is followed by a heavy puff of air.

This sound is called *voiced aspirated palatal long affricate.* It occurs as the first member of the two-consonant cluster.

[bujjhra]	'she/it understood'
[bAjjhra]	'she/it got entangled'

3.6. Nasals

The Kũṛux sounds described in this section are produced like stops except that the velic is open for the air stream to pass through.

3.6.1. Short Nasals:

The Nasal Consonant [m]:

To produce this sound the air stream is stopped at the lips by closing them. The soft palate is lowered for the air stream to pass through the velic. Partial breath pressure is built up behind the bilabial occlusion and then released. Vocal cords are closer to each other, and therefore vibrate and produce voicing.

This sound is called *voiced bilabial short nasal consonant.* It resembles the Hindi sound represented by the Devanagari script म . It occurs initially, between two vowels, finally, as the first and second members of the two, three and four consonant clusters.

[ma:ne]	'meaning'
[na:me]	'name'
[na:m]	'we inclusive'
[kAmdAn]	'I make'
[kAmckAn]	'I made'
[sAmrtˀa:dAn]	'I make one get oneself into'
[kArmi]	'name of a tree'
[gUrmdAn]	'I perform sorcery'
[gUrmtˀa:dAn]	'I make one perform sorcery'

The Nasal Consonant [n]:

To produce this sound the tip of the tongue is placed behind the root of the upper front teeth and the air stream is stopped. The soft palate is lowered for the air stream to pass through the nasal passage. Partial breath pressure is built up behind the dental occlusion and then released. Vocal cords vibrate and produce voicing.

This sound is called *voiced dental nasal short consonant.* It resembles the Hindi sound represented by the Devanagari letter न्. It occurs initially, between two vowels, finally, as the first member of the two, three, four and five consonant clusters, and as the second member of the two and three consonant clusters.

[ni:n]	'you (sg.)'
[e:n]	'I'
[mAndAn]	'I respect'
[mAntˀa:dAn]	'I make one respect'
[sAnrtˀa:dAn]	'I make one mix oneself'
[xAndrtˀa:dAn]	'I make one sleep'
[bAlna]	'not to know'
[bAtnha]	'talkative'

The Nasal Consonant [ṇ]:

To produce this sound the tip of the tongue is placed behind the root of the upper front teeth and the air stream is stopped. The soft palate is lowered for the air stream to pass through the nasal passage. Partial breath pressure is built up behind the dental occlusion and then released. Vocal cords vibrate and produce voicing.

This sound is called *voiced retroflex nasal short consonant.* It resembles the Hindi sound represented by the Devanagari letter ण् . It occurs only before [ḍ].

[pAṇḍru]	'white
[bhAṇḍa:r]	'granary'
[mIṇḍri]	'circle'

The Nasal Consonant [ñ]:

When producing this sound the centre of the tongue is raised to touch the hard palate so that the outcoming air stream is stopped. Soft palate is lowered for the air stream to pass through the nasal passage. Partial breath pressure is built up behind the palatal occlusion and then released. Vocal cords are close to each other, which vibrate and produce voicing.

This sound is called *voiced palatal nasal short consonant.* It resembles the Hindi sound represented by the Devanagari letter ञ्. It occurs only before [j].

[mAñji]	'stem'
[mᴖñjra]	'salute'

The Nasal Consonant [ṅ]:

When producing this sound the centre of the tongue is raised to touch the hard palate so that the outcoming air stream is stopped. Soft palate is lowered for the air stream to pass through the nasal passage. Partial breath pressure is built up behind the palatal occlusion and then released. Vocal cords vibrate and produce voicing.

This sound is called *voiced velar nasal short consonant.* It resembles the Hindi sound represented by the Devanagari letter ङ् . It occurs before [g].

[Aṅga]	'garment'
[doṅga]	'boat'
[bhAṅgdAn]	'I fell (the tree)'
[ṭAṅgdAn]	'I hang'
[ṭAṅgtʔa:dAn]	'I make one hang'
[ṭAṅgrtʔa:dAn]	'I make one hang oneself'

3.6.2. Long Nasals:

The Nasal Consonant [mm]:

The articulatory movements for the production of this sound are identical to those for [m] except that the partial breath pressure built up behind the bilabial occlusion stays longer.

This sound is called *voiced bilabial nasal long consonant.* It occurs between two vowels, finally and as the first member of the two, three and four consonant clusters.

[Umma]	'no'
[tUmmo]	'she/it will sneeze'
[sAmm]	'plain'
[dAmm]	'breath'
[tUmmdAn]	'I sneeze'
[kUmmdAn]	'I carry load on the head'
[AmmbdAn]	'I leave'
[Ammbtˀa:dAn]	'I make one leave'

The Nasal Consonant [nn]:

The articulatory movements for the production of this sound are identical to those for [n] except that the partial breath pressure built up behind the dental occlusion stays longer.

This sound is called *voiced dental nasal long consonant.* It occurs between two vowels, finally and as the first member of the two and three consonant clusters.

[pInni]	'aunt'
[pAnna]	'iron'
[bAnna]	'colour'
[xAnn]	'eye'
[mAnn]	'tree'
[mAnndAn]	'I become'
[mAnntˀa:dAn]	'I make one become'

The Nasal Consonant [ṇṇ]:

This sound is pronounced exactly like [ṇ], except that the partial breath pressure built up behind the palatal occlusion stays longer.

This sound is called *voiced retroflex nasal long consonant.* It occurs before [ṭ], [ḍ], and [ṭh].

[bAṇṇṭa]	'share'
[bhAṇṇḍa]	'earthen pot'
[kAṇṇḍo]	'wooden stool'
[bIṇṇṭhi]	'kitchen knife'
[cEṇṇṭha]	'smart'

The Nasal Consonant [ññ]:

The articulatory movements for the production of this sound are identical to those for [ñ], except that the partial air pressure built up behind the palatal occlusion stays longer.

This sound is called *voiced palatal nasal long consonant.* It occurs before [c], [ch], and [j].

[pEññcho]	'feather'
[bEññja]	'marriage'
[kᴖññco]	'fishing basket'
[sAññca]	'mould'

The Nasal Consonant [ṅṅ]:

This sound is pronounced with the same

articulatory movements used for the production of [ṅ], except that the partial air pressure built up behind the velic occlusion stays longer.

This sound is called *voiced velar nasal long consonant*. It occurs before [k] and [g].

[bAṅṅga]	'father'
[tEṅṅgdAn]	'I tell'
[cIṅṅgdAn]	'I pinch'
[ḍhAṅṅg]	'sense'
[rAṅṅg]	'colour'
[cIṅṅgtˀa:dAn]	'I make one pinch'
[tEṅṅgtˀa:dAn]	'I make one to tell'
[kAṅṅk]	'wood'
[ṭoṅṅka]	'dry land'

3.7. Trills

3.7.1. Short Trill:

The Trill Consonant [r]:

To produce this sound the tip of the tongue touches the alveolar region and vibrates rapidly for a short time. Soft palate is raised to prevent the air stream from passing through the nasal passage. Vocal cords are close to each other, vibrate and produce voicing.

This sound is called *voiced alveolar short trill*. It resembles the Hindi sound represented by the Devanagari letter र . It occurs initially, between two vowels, finally as the first member of the two and three consonant clusters, as the second member of the two, three and four consonant clusters, and as the third member of the three and four consonant clusters.

[ra:si]	'juice'
[ra:ji]	'country'
[tAra]	'towards'
[dAra]	'and'
[a:r]	'they'
[bArka]	'blanket'
[gArda]	'dirt'
[bArtʔa:dAn]	'I make one come'
[e:rtʔa:dAn]	'I make one see'
[bArckAn]	'I came'
[bAtre]	'slightly'
[cAtrʔa:dAn]	'I clean'
[cAtrtʔa:dAn]	'I make one clean'
[Ammɔra]	'It was left'
[xAndrtʔa:dAn]	'I make one sleep'

3.7.2. Long Trill:

The Trill Consonant [rr]:

This sound is produced with the articulatory movements identical for [r] except that the vibration of the tip of the tongue takes place for a long time.

This sound is called *voiced alveolar long trill.* It occurs between two vowels, finally and as the first member of the two and three consonant clusters.

[kArra]	'big'
[xArra]	'off-shoot of the bamboo'
[nErre]	'snake'
[cArrdAn]	'I tear off'
[cArrtʔa:dAn]	'I make one tear off'

3.8. Laterals

3.8.1. Short Lateral:

The Lateral Consonant [l]:

To produce this sound the tip of the tongue is raised to touch the alveolar ridge in such a way that the blades of the tongue do not touch the teeth and gums at the sides. This position of the tongue allows the air stream to flow on either side of the alveolar contact. Soft palate is raised to block the entry of the air stream into the nasal passage. Vocal cords are brought closer to produce voicing. This sound is called *voiced alveolar short lateral consonant.* It resembles the Hindi sound represented by the Devanagari letter ल् . It occurs initially, between two vowels, finally as the first member of the two, three and four consonant clusters, second member of the two and three consonant clusters and as the third member of the three, four and five consonant clusters.

[la:le]	'saliva'
[mAla]	'not'
[a:l]	'human'
[bAldAn]	'I do not know'
[o:ltʔa:dAn]	'I cause one to get burnt'
[Aṅgltʔa:dAn]	'I cause one to open one's mouth'
[Ikla]	'which day'
[hAthlʔa:dAn]	'I support by hand'
[Ummbla]	'she/it urinated'
[UmbldAs]	'he urinates'
[Umbltʔa:dAn]	'I make one urinate'

3.8.2. Long Lateral:

The Lateral Consonant [ll]:

The articulatory movements for the production of this sound are identical to those for [l] except that the tongue at the alveolar ridge is held for a longer time.

This sound is called *voiced alveolar lateral long consonant.* It occurs between two vowels, finally, as the first member of the two and three consonant clusters.

[mAlla]	'she/it is not'

[pAll]	'tooth'
[kAll]	'machine'
[kᴖlldAn]	'I untie'
[kᴖllt?a:dAn]	'I make one to untie'

3.9. Flap

The Flap Consonant [ṛ]:

When producing this sound the tip of the tongue curles back and touches the hard palate in the same way as it does for [ḍ]. The tip of the tongue does not close the oral passage as it does for [ḍ], but taps at the hard palate and immediately returns to its normal position. The soft palate is raised to block the entry of the air stream into the nasal passage. Vocal cords are close to each other, vibrate and produce voicing.

This sound is called *voiced retroflex flap consonant*. It resembles the Hindi sound represented by the Devanagari letter ड़ . It occurs between two vowels, finally, as the first member of the two, three and four consonant clusters, and as the second member of the two consonant cluster.

[pAṛa]	'inoculation'
[bAṛa]	'banyan tree'

[xa:ṛ]	'river'
[gAṛdAn]	'I fix'
[xAṛdAn]	'I steal'
[xAṛtˀa:dAn]	'I make one steal'
[kUṛrtˀa:dAn]	'I make one burn oneself'

- - - -

4. PHONETIC DRILL

In chapters 2 and 3 we described how the individual KƱṛux sounds are produced. Phonetic descriptions of sounds in those chapters are meant to enable the learners understand how they are pronounced. In order to achieve accurate pronunciation, the learner, besides knowing the ways of pronunciation should have a long practice in pronouncing them. This practice should also help him to differentiate one sound from the phonetically similar other sounds. This chapter provides lists of words with pairs of similar sounds for practice.

The long consonant is represented by a sequence of two short consonants. For example, [t] is short and its long counterpart is represented as [tt]. A cluster of two identical consonants is written with a dash in between. They are two separate segments and must be pronounced as two consonants one following the other.

4.1. Vowels

4.1.1. Lower high front unrounded short syllabic oral vowel [i] and the high front unrounded long syllabic [i:].

[IsAn]	'here'
[i:sIn]	'this man (acc.)'

[Ima:n]	'sincerity'
[i:mAn]	'white ant (acc.)'
[IskUl]	'school'
[i:shi:]	'this man's'
[Ista]	'of this place'
[i:rhi]	'of these people'
[Inna]	'today'
[i:ma]	'white ant'
[pIsa]	'later'
[pi:sa]	'you (mas.sg.) (imp.)'
[pIsna]	'next year'
[pi:sna]	'to filter'
[pIsta]	'of the latter'
[pi:ska]	'filtered'
[tIssa]	'sour'
[ti:na]	'right hand'
[xIssi]	'fair complexed'
[xi:ri]	'story'

4.1.2. Lower high front unrounded short syllabic oral vowel [I] and the nasal [Ĩ].

[bIṛi]	'beedi'
[pĨṛi]	'name of a village'
[ḍhIṛhi]	'best woman'
[dhĨṛhi]	'flower bud'
[cIkcIkrna]	'to be neat and clean'
[cĨxcĨxrna]	'to have a mind to weep'

[sIṛhi]	'ladder'
[sIṛˀi]	'peculiar smell of stale meat or fish'

4.1.3. High front unrounded syllabic oral vowel [i:] and the nasal [ĩ:].

[i:xrna]	'to be half husked'
[ĩ:jhrna]	'to blow one's nose'
[bi:ṛi]	'sun'
[bĩ:ṛi]	'queen'
[bhi:ṛ]	'assemblage'
[bhĩ:r]	'embankment'
[ci:ro]	'name of a grass'
[cĩ:co]	'hollow grain'
[ci:pna]	'to suck'
[cĩ:xna]	'to weep'

4.1.4. Lower high front short unrounded syllabic nasal vowel [ĩ] and the high front long [ĩ:].

[pĨṛi]	'name of a village'
[pĩ:ṛi]	'twisted cotton'

4.1.5. High front unrounded short syllabic oral vowel [i] and the nasal [ĩ].

[bAˀi]	'she/it says'
[hAˀĩ]	'is that so?'

4.1.6. Mean mid front unrounded short syllabic oral vowel [E] and the higher mid long [e:].

[Eka]	'which'
[e:ka]	'you (mas.sg.) walk (imp.)'
[Era]	'come'
[e:ra]	'you (mas.sg.) see (imp.)'
[pEsdAn]	'I pick up'
[pe:sdAn]	'I command'
[bEṛha]	'hard'
[be:ṛha]	'one round of a rope'
[cEpAn]	'sod (accu.)'
[ce:pAn]	'rain (accu.)'
[hEbṛna]	'to throw'
[he:brna]	'to get used to'
[xEtta]	'cobra'
[xe:ta]	'leaf-cup'
[mEjhra]	'half and half'
[me:jhna]	'to adorn'

4.1.7. Mean mid front unrounded short syllabic oral vowel [E] and the nasal [Ẽ].

[cEṛˀa]	'you (mas.sg.) carry (imp.)'
[cẼṛa]	'young'
[bEṛha]	'hard'
[bẼhci]	'cantaneous affection'

4.1.8. Higher mid front unrounded long syllabic oral vowel [e:] and the nasal [ẽ:].

[e:ṛAn]	'goat (accu.)'
[ẽ:ṛAn]	'both things (accu.)'

[be:k]	'salt'
[sẽ:k]	'heat'
[be:s]	'proper'
[bẽ:t]	'cane'
[ce:t]	'consciousness'
[kẽ:t]	'a plant'
[ke:sa]	'you (mas.sg.) winnow (imp.)'
[kẽ:sa]	'sesame'
[xe:r]	'hen'
[xẽ:s]	'blood'
[xe:ta]	'leaf-cup'
[xẽ:so]	'red'

4.1.9. Mean mid front unrounded short syllabic nasal vowel [Ẽ] and the high mid long [ẽ].

[cẼṛa]	'young'
[kẽ:sa]	'sesame'

4.1.10. Higher mid front unrounded short syllabic oral vowel [e] and the nasal [ẽ].

[pAhe]	'within one's reach'
[pAhẽ]	'but'
[bEse]	'like'
[kEhẽ]	'perhaps'

4.1.11. Lower high back rounded short syllabic oral vowel [U] and the high back long [u:].

[Uru]	'only'

[Urna]	'to rub off the leaves'
[u:rna]	'to blow air'
[dhUrna]	'to fit on'
[ḍhu:rna]	'to cool'
[phUṭ]	'escape door'
[phu:t]	'split'
[kUṭi]	'bitch'
[ku:ṭi]	'blank shore'
[kUṛna]	'to roast'
[ku:rna]	'to put on saree'
[khUṛi]	'disabled'
[khu:ṛi]	'village lane'
[gUṭi]	'pebble'
[gu:ṭi]	'upto'
[nUkna]	'to shake'
[nu:xna]	'to bow the head'
[rUsi]	'dandruff'
[ru:si]	'displeasure'

4.1.12. Lower high back rounded short syllabic oral vowel [U] and the nasal [Ũ].

[cUri]	'earth turned out by rats'
[cŨra]	'fresh outgrowth from the stem of a tree'
[kUṛa]	'you (mas.sg.) roast (imp.)'
[kŨṛa]	'the biggest earthen pot'
[gUṛi]	'guest-house of village'
[gŨṛi]	'gunny bag'

[gUṛna]	'to encage'
[gŨṛna]	'to reduce to powder'

4.1.13. High back rounded long syllabic oral vowel [u:] and the nasal [ũ:].

[pu:r]	'next birth'
[pũ:p]	'flower'
[bu:ṭ]	'Bengalgram'
[sũ:s]	'crocodile'
[bhu:t]	'devil'
[khũ:ṭ]	'clan'
[bhu:l]	'mistake'
[bhũ:s]	'a kind of mouse'
[tu:ri]	'name of a caste'
[tũ:ti]	'name of a fruit'
[chu:t]	'unclean'
[dhũ:s]	'rag'
[ghu:r]	'a pit to throw in refuse'
[kũ:ṛ]	'deep pit in a river'

4.1.14. Lower high back rounded short syllabic nasal vowel [Ũ] and the high back long [ũ:].

[phŨphi]	'any pipe (accu.)'
[pũ:pAn]	'flower (accu.)'
[cŨṛAn]	'fresh outgrowth (accu.)'
[sũ:sAn]	'crocodile (accu.)'
[kŨṛAn]	'the biggest earthen pot (accu.)'

[ku:rAn]	'deep pit in a river (accu.)'
[gŨṛIn]	'gunny bag (accu.)'
[tu:tin]	'a kind of fruit (accu.)'

4.1.15. High back rounded short syllabic oral vowel [u] and the nasal [ũ].

[kuhu]	'name of a bird'
[gEhũ]	'wheat'
[dAhu]	'name of a fruit'
[hũ]	'also'

4.1.16. Mean mid back rounded short syllabic oral vowel [ɔ] and the higher mid long [o:].

[ɔla]	'den'
[o:la]	'you (mas.sg.) get burnt (imp.)'
[ɔdna]	'to set fire'
[o:gna]	'to swim'
[ṭɔkna]	'to accost'
[to:kna]	'to dance'
[cɔʔna]	'to get up'
[co:dna]	'to make one get up'
[kɔṛna]	'to dig'
[ko:ṛna]	'to beat'
[lɔṭAn]	'brass vessel (accu.)'
[lo:ṭAn]	'currency note (accu.)'

4.1.17. Mean mid back rounded short syllabic

oral vowel [ᴖ] and the nasal [ᴖ̃].

[ᴖṛna]	'to fix'
[ᴖ̃ṛna]	'to reach by hand or foot'
[kᴖrhe]	'much'
[tᴖ̃ṛhe]	'to wind instrument'
[kᴖṛa]	'response'
[tᴖ̃ṛo]	'pole'

4.1.18. Higher mid back rounded long syllabic oral vowel [o:] and the nasal [õ:].

[o:t]	'obstacle'
[õ:t]	'name of a creeper'
[po:k]	'ant'
[phõ:k]	'open space between any two objects'
[to:t]	'side'
[sõ:t]	'elephant's trunk'
[co:dna]	'to raise'
[cõ:xna]	'to escort'
[jo:r]	'effort'
[jõ:x]	'grown up man'
[ko:ra]	'you (mas.sg.) beat (imp.)'
[kõ:ṛa]	'corner'
[xo:rna]	'to shoot out new leaves'
[xõ:ṛna]	'to gather'
[so:r]	'origin'
[sõ:s]	'crocodile'

4.1.19. Mean mid back rounded short syllabic nasal vowel [ᴖ̃] and the higher mid long [õ:].

[tᴖ̃rᴖn]	'pole (accu.)'
[tõ:ṛna]	'to catch up'
[kᴖ̃hṛa]	'cucumber'
[kõ:ṛa]	'corner'
[xᴖ̃ṛsna]	'to boil cloth'
[xõ:sna]	'to pound'

4.1.20. Higher mid back rounded short syllabic oral vowel [o] and the nasal [õ].

[bAˀo]	'she will say'
[ṭAˀõ]	'name of a bird'
[nEˀo]	'she will ask for'
[kEhõ]	'perhaps'

4.1.21. Lower mid back unrounded short syllabic oral vowel [A] and the low back long [a:].

[Aṛi]	'small earthen pot'
[a:ṛi]	'embankment'
[Abṛa]	'those things'
[a:bda]	'unbleached-paddy'
[Adṛna]	'to cover oneself'
[a:drna]	'to be detected'
[Archi]	'spur'
[a:rci]	'a pointed stick'
[bAki]	'an insect'
[ba:ki]	'still due'

[bAlka]	'mistake'
[ba:lka]	'turmeric'
[bArna]	'to come'
[ba:rna]	'to take any solid obje out of a liquid'
[cAṛna]	'to uproot'
[ca:ṛna]	'to overflow'
[kAna]	'blind'
[ka:na]	'to go'
[hAṛi]	'a shout (interj.)'
[ha:ṛi]	'further on'

4.1.22. Lower mid back unrounded short syllabic oral vowel [A] and the nasal [Ã].

[Aṛna]	'to cover with skin'
[Ãṛna]	'to pervade'
[Aṛxa]	'greens'
[Ãṛka]	'testicle'
[Aṛsga]	'horsegram'
[Ãṛsna]	'to reach'
[pArti]	'after'
[pÃṛki]	'pigeon'
[bAsa]	'stay'
[bÃsa]	'hollow bamboo'
[bAṛa]	'Ficus indicus'
[bÃṛa]	'hog'
[kAsa]	'astringent'
[kÃsa]	'an alloy'

[kAṛa]	'young male buffalo'
[kÃṛa]	'shortsighted'
[gAṛa]	'cart'
[gÃṛa]	'weaver'
[sAṛa]	'noise'
[sÃṛa]	'stretcher'

4.1.23. Low back unrounded long syllablic oral vowel [a:] and the nasal [ã:].

[a:s]	'he'
[ã:c]	'heat'
[ba:cka]	'that which is said'
[bã:cka]	'that which is read'
[ba:s]	'our father'
[bã:s]	'bamboo'
[ba:rna]	'to take any solid object out of a liquid'
[bã:ṛna]	'to detect by smell'
[ta:k]	'opportunity'
[tã:k]	'hip bone'
[ta:s]	'card'
[tã:t]	'strings of the pellet bow'
[ta:r]	'palm tree'
[ṭã:ṛ]	'dry land'
[ta:rna]	'to remove'
[tã:ṛna]	'to stretch'
[sa:s]	'mother-in-law'
[sã:s]	'breath'

[ra:ṛ]	'rascal'
[rã:ṛ]	'widowed'

4.1.24. Lower mid back unrounded short syllabic nasal vowel [Ã] and the low long [a:].

[Aṛka]	'testicles'
[ã:ṛko]	'about half of a kilogram'
[kAṛAn]	'blind object (accu.)'
[kã:ṛAn]	'wooden rafter (accu.)'
[sArAn]	'stretcher (accu.)'
[sã:ṛAn]	'bull (accu.)'

4.1.25. Low back unrounded short syllabic oral vowel [a] and the nasal [ã].

[bAˀa]	'you (mas.sg.) say (imp.)'
[hAˀã]	'yes'
[chII̯a]	'dirt'
[cII̯ã]	'chicken'
[koro̯a]	'Korwa tribe'
[pEro̯ã]	'pigeon'
[gUI̯a]	'with'
[ṭUI̯ã]	'smaller variety of parrots'
[rAha]	'you (mas.sg.) wait (imp.)'
[kohã]	'big'

4.1.26. Lower high front unrounded short syllabic oral vowel [I] and the mean mid [E].

[Ibsa]	'thorny grass'

[Ebsa]	'she lost'
[Ikla]	'when'
[Ekla]	'alone'
[Indra]	'well'
[Endra]	'what'
[IsAn]	'here'
[EsAn]	'where'
[IstEk]	'from here'
[EstEk]	'from where'
[pIṭa]	'you (mas.sg.) kill (imp.)'
[pEṭa]	'name of a village'
[pIsa]	'later'
[pEsa]	'you (mas.sg.) pick up (imp.)'
[bIṛa]	'paddy seedling'
[bEṛa]	'time'
[bIṛhna]	'to plough for the second time'
[bEṛhna]	'to be hard'
[dhIṛha]	'lump'
[dhEṛha]	'the best man'

4.1.27. High front unrounded long syllabic oral vowel [i:] and the higher mid [e:].

[pi:sna]	'to filter'
[pe:sna]	'to order'
[bi:sna]	'to sell'
[be:cna]	'to play'

[bi:s]	'twenty'
[be:s]	'good'
[xi:rIn]	'story (accu.)'
[xe:rAn]	'hen (accu.)'
[si:r]	'nerve'
[se:r]	'a measure'

4.1.28. Lower high back rounded short syllabic oral vowel [U] and the mean mid [o].

[Uṛna]	'to have one's satisfaction'
[oṛna]	'to fix'
[bUṛa]	'doom'
[boṛa]	'boa'
[dUkkh]	'pain'
[dokkh]	'crime'
[cUrhi]	'thief (non.mas.)'
[corha]	'thief (mas.)'
[jhUla]	'jacket'
[jhola]	'flame'
[kUṭi]	'bitch'
[koṭa]	'male dog'
[kUllna]	'to cover'
[kollna]	'to untie'
[kUṛna]	'to roast'
[koṛna]	'to dig'
[khUlna]	'to be fit'
[kholna]	'to open'

[gUṛna]	'to encage'
[gʌṛna]	'to make powder'

4.1.29. High back rounded long syllabic oral [u:] and the higher mid [o:].

[u:jna]	'to collect'
[o:gna]	'to swim'
[cu:gna]	'to level'
[co:dna]	'to lift'
[gu:l]	'uproar'
[go:l]	'round'
[hu:s]	'that man'
[ho:s]	'conscious'
[mu:xa]	'frog'
[mo:xa]	'you (mas.sg.) eat (imp.)'
[mu:ṛa]	'you (mas.sg.) strike (imp.)'
[mo:ṛa]	'grain basket'
[mu:xi]	'she/it eats'
[mo:xa]	'you (mas.sg.) eat (imp.)'

4.1.30. Lower high front unrounded short non-syllabic oral vowel [I̯] and the mean mid [E̯].

[pAI̯ha]	'wheel'
[pAE̯ha]	'weak'
[bAI̯ri]	'enemy'
[bhAE̯ri]	'deaf (non.mas.)'
[bhArAI̯]	'penalty'

[bArAE̯]	'you (non.mas.sg.) come (imp.)'
[bha:I̯]	'brother'
[bha:E̯]	'soon'
[dAI̯a]	'intimate address term'
[dAE̯a]	'kindness'
[kAI̯lAn]	'red haired (accu.)'
[kAE̯lAn]	'worn out (accu.)'
[kArI̯a]	'black'
[kArE̯a]	'loin cloth'

4.1.31. Lower high front unrounded short non-syllabic oral vowel [I̯] and the long non-syllabic oral [I̯:].

[gUI̯a]	'with'
[tAI̯:a]	'you (mas.sg.) send (imp.)'
[mAI̯a]	'girl baby'
[mAI̯:a]	'up'

4.1.32. Lower high front unrounded short non-syllabic oral vowel [I̯] and the nasal [Ĩ̯].

[pAI̯ri]	'morning'
[pAĨ̯ri]	'drain'
[pAI̯ṭa:rna]	'to get used to'
[AĨ̯ṭha:rna]	'to get twisted'
[bhAI̯s]	'brother'
[bhAĨ̯s]	'she-buffalo'

4.1.33. Mean mid front unrounded short

non-syllabic oral vowel [E̯] and the nasal [Ẽ̯].

[o:E̯]	'ox/cow'
[do:Ẽ̯]	'mahuwa fruit'
[ba:E̯]	'wage'
[bha:Ẽ̯]	'soon'
[gAE̯ra:hi]	'public'
[gAẼ̯sIs]	'spy'

4.1.34. Lower high back rounded short non-syllabic oral vowel [U̯] and the mean mid [∩̯].

[pAU̯a]	'one quarter of a seer'
[pA∩̯a]	'foot of a chair'
[khAU̯ha]	'greedy'
[khA∩̯ha]	'broken'

4.1.35. Lower high back rounded short non-syllabic oral vowel [U̯] and the nasal [Ũ̯].

[bhAU̯sa]	'physical strength'
[bhAŨ̯ri]	'circle'
[cAU̯ka]	'square holes'
[cAŨ̯ri]	'false hair'

4.1.36. Mean mid back rounded short non-syllabic oral vowel [∩̯] and the nasal [∩̯̃]

[dA∩̯a]	'medicine'
[bhA∩̯̃a]	'eyebrows'
[lA∩̯ra]	'she beat herself'
[bhA∩̯̃ra]	'brown'

4.2. Consonants

4.2.1. Voiceless bilabial unaspirated short stop [p] and the aspirated [ph].

[pAlna]	'to rear'
[phAlna]	'certain'
[pAṛa]	'vaccination'
[phAṛa]	'plank'
[kApa]	'name of a village'
[sApha]	'clean'
[sApna]	'dream'
[rAphna]	'to shine'

4.2.2. Voiced bilabial unaspirated short stop [b] and the aspirated [bh].

[bEṭAs]	'son'
[bhEtAs]	'elder sister's husband'
[bEddna]	'to find'
[bhEdna]	'to feel'
[bAṛa]	'banyan tree'
[bhAṛa]	'rent'
[bAṛna]	'to last'
[bhAṛna]	'to use obscene language'
[bArna]	'to come'
[bhArna]	'fit of madness'
[bAbra]	'cluster of small swollen spots on the skin'
[bhAbhra]	'rumour'

[cAbˀi]	'she/it bites'
[cAbhi]	'key'
[sAba]	'name of a girl'
[sAbha]	'meeting'

4.2.3. Voiceless bilabial unaspirated short stop [p] and the voiced [b].

[pi:sna]	'to filter'
[bi:sna]	'to sell'
[pEla]	'uselessly'
[bEla]	'time'
[pAccna]	'to grow old'
[bAccna]	'to snatch'
[pAṭa]	'leveller'
[bAṭa]	'share'
[pAksa]	'dry leaves'
[bAksa]	'box'
[pAsa]	'hammer'
[bAsa]	'stay'
[pAli]	'household'
[bAli]	'door'
[pAlna]	'to rear'
[bAlna]	'not to know'
[pAṛha]	'committee'
[bArha]	'wild dog'
[pAhra]	'period'
[bAhṛa]	'name of a tree'

4.2.4. Voiceless bilabial aspirated short stop [ph] and the voiced [bh].

[phAri]	'clean'
[bhAri]	'a weight equivalent to one tola'
[phAṛi]	'plank'
[bhAṛa]	'rent'
[phAṛna]	'to form into a bulb'
[bhAṛna]	'to use obscene language'
[sApha]	'clean'
[sAbha]	'meeting'
[sAphi]	'towel'
[cAbhi]	'key'

4.2.5. Voiceless bilabial unaspirated long stop [pp] and the voiced [bb].

[cUppa]	'prawn'
[cUbba]	'peacock'
[cAppra]	'it is felt'
[cAbbra]	'it is bitten'
[xAppa]	'leach'
[sEbba]	'easy'
[nEppna]	'to take with a sweeping movement'
[nEbbna]	'to become less heavy'

4.2.6. Voiceless bilabial aspirated long stop [pph] and the voiced [bbh].

[dʌppha]	'the point where two roads meet'

[lɔbbhra]	'she got fascinated'
[sɔpphe]	'upside down'
[gɔbbhra]	'she got pierced'

4.2.7. Voiceless dental unaspirated short stop [t] and the aspirated [th].

[tAra]	'towards'
[thAra]	'big plate'
[tAka]	'even then'
[thAka]	'grouped together'
[tAna]	'the pit where the weaver puts his feet when at work'
[thAna]	'police station'
[tɔta]	'dumb'
[thɔtha]	'naked'
[tɔtṛa]	'stutterer'
[thɔthṛa]	'lips'
[pAtna]	'to kill with the finger nails'
[pAthna]	'to feather the end of an arrow'
[bEtrʔa:na]	'to bag a child'
[bIthrʔa:na]	'to spread'
[bɔta]	'stinking smell'
[bɔtha]	'stale rice-beer'
[cItra]	'deer'
[cEthra]	'torn cloth'

4.2.8. Voiced dental unaspirated short stop [d] and the aspirated [dh].

[dAri]	'rag'
[dhAri]	'edge'
[gAda]	'mattress'
[gAdha]	'donkey'
[lEdra]	'torn cloth
[gAdhra]	'half ripen'

4.2.9. Voiceless dental unaspirated short stop [t] and the voiced [d].

[AtAr]	'one out of every two'
[AdAr]	'broken grain'
[bAtrˀa:na]	'to refine'
[bAdṛˀa:na]	'to knock out'
[tIri]	'by means of'
[dIri]	'late'
[tAna]	'the pit where the weaver puts his feet when at work'
[dAna]	'grain'
[tAra]	'towards'
[dAra]	'and'
[tUmmba]	'cucumber'
[dUmmba]	'hornet'
[ca:tAr]	'beaten spot without grass or trees'
[ca:dAr]	'bedspread'

[hᴖṭrˀa:na]	'to cause to slip down'
[hᴖdṛtˀa:na]	'to cause to come down bodily'
[ba:t]	'saying'
[ba:d]	'bet'

4.2.10. Voiceless dental aspirated short stop [th] and the voiced [dh].

[pAthII̭a]	'basket'
[bAdhII̭a]	'castrated pig'
[thAnII̭a]	'resident'
[dhAnII̭a]	'coriander'
[thAmna]	'to support'
[dhAmna]	'name of a snake'
[thAra]	'big plate'
[dhAra]	'any one in a group of parallel ranges'

4.2.11. Voiceless dental unaspirated long stop [tt] and the voiced [dd].

[Atti]	'with the result that'
[Addi]	'patrimonial'
[Utti]	'she/it touches'
[kUddi]	'she/it walks'
[pEtta]	'she picked up'
[bEdda]	'you (mas.sg.)find (imp.)'
[pEtto]	'small'
[mEddo]	'brain'

[pAtta]	'chisel'
[pAdda]	'village'
[xEtta]	'cobra'
[lEdda]	'newly born'
[sotto]	'nasal mucus'
[kUddo]	'she/it will walk'

4.2.12. Voiceless dental aspirated long stop [tth] and the voiced [ddh].

[kAtthAn]	'saying (accu.)'
[lAddhAṛ]	'lazy'

4.2.13. Voiceless retroflex unaspirated short stop [ṭ] and the aspirated [ṭh].

[pAṭa]	'leveller'
[pAṭha]	'name of a disease'
[ṭIka]	'vaccination'
[ṭhIka]	'contractor'
[ṭAkna]	'to ask'
[ṭhAkna]	'to strike'
[ṭAṭna]	'to grow tired'
[ṭhAṭhna]	'to strike'
[ṭAsna]	'to close'
[ṭhAsna]	'to beat'
[ṭã:ṛ]	'dry land'
[ṭha:ṛ]	'standing'
[ghAṭi]	'small bell'
[ghAṭha]	'rice and maize cooked together'

4.2.14. Voiced retroflex unaspirated short stop [ḍ] and the aspirated [ḍh].

[ḍIlna]	'to fill up'
[ḍhIlna]	'to untie'
[ḍEra]	'stay'
[ḍhEra]	'wooden contrivance for twisting threads'
[bEḍrna]	'to fall'
[bAḍhrna]	'to grow in number'

4.2.15. Voiceless retroflex unaspirated short stop [ṭ] and the voiced [ḍ].

[ṭEra]	'one eyed'
[ḍEra]	'stay'
[ṭEna]	'small post'
[ḍEna]	'wing'
[ṭᴖka]	'hole'
[ḍᴖka]	'address term for younger brother by elder sisters'
[ṭAbkˀa:na]	'to cause shooting pain'
[ḍAkbˀa:na]	'to boil'
[ṭAsna]	'to glue'
[ḍAsna]	'bedspread'
[cAṭrna]	'to suffer'
[cAḍrna]	'to come off'
[pIṭri]	'mat'
[bIḍri]	'she/it falls'
[pEṭra]	'greedy'

[bEḍra]	'you (mas.sg.) fall (imp.)'
[pAṭra]	'plenty'
[cAḍra]	'bald headed'

4.2.16. Voiceless retroflex aspirated short stop [ṭh] and the voiced [ḍh].

[ṭhEkka]	'small earthen pot'
[ḍhEkka]	'dense'
[ṭhEsna]	'to knock one object against another'
[ḍhEsna]	'to blame'
[ṭhEla]	'push cart'
[ḍhEla]	'lump of hard earth'
[ṭhAṭhra]	'bamboo matting'
[ḍhAḍhra]	'pot bellied'
[ṭhAkna]	'to tell a lie'
[ḍhAkna]	'lid'

4.2.17. Voiced retroflex unaspirated short stop [ḍ] and the flap [ṛ].

[bEḍrna]	'to lie down'
[bEṛrna]	'to close oneself'
[kUḍraʔa]	'you (mas.sg.) level (imp.)'
[kUṛrʔa]	'you (mas.sg.) get roasted (imp.)'
[gUḍrʔa]	'you (mas.sg.) cause to roll (imp.)'
[gUṛrʔa]	'you (mas.sg.) close 'yourself (imp.)'

4.2.18. Voiceless retroflex unaspirated long stop [ṭṭ] and the voiced [ḍḍ].

[Aṭṭa]	'you (mas.sg.) spread (imp.)'
[Aḍḍa]	'place'
[Uṭṭa]	'she/it closed'
[Uḍḍu]	'basket'
[bʌṭṭo]	'bubble'
[bʌḍḍo]	'mud'
[kUṭṭa]	'she fried'
[kUḍḍa]	'navel'
[sUṭṭi]	'small stick'
[chUḍḍi]	'name of a fish'
[sʌṭṭa]	'big stick'
[pUḍḍa]	'short'

4.2.19. Voiceless retroflex aspirated long stop [ṭṭh] and the voiced [ḍḍh].

[Uṭṭhra]	'it was said'
[bAḍḍhra]	'it grew in number'
[pAṭṭha]	'rascal'
[dhAḍḍha]	'a kind of vegetable'
[kʌṭṭho]	'dirty'
[lʌḍḍho]	'ponderous'

4.2.20. Voiceless velar unaspirated short stop [k] and the aspirated [kh].

[kAca]	'raw'

[khAca]	'basket'
[kAni]	'blind woman'
[khAni]	'dense'
[kAla]	'you (mas.sg.) go (imp.)'
[khAla]	'skin'
[koṛna]	'to dig'
[khoṛna]	'to set fire to'
[kokṛo]	'curly'
[khokhṛo]	'recess'
[kUli]	'labourer'
[khUli]	'cover'
[bokṛa]	'he-goat'
[bokha]	'one with the broken tooth'
[cAkna]	'to sharpen'
[cAkhna]	'side-dish'

4.2.21. Voiced velar unaspirated short stop [g] and the aspirated [gh].

[gEra]	'scoria'
[ghEra]	'fence'
[gAṭi]	'limestone'
[ghAṭi]	'bell'
[gAgra]	'earthen pot'
[ghAghra]	'name of a village'
[gArhAn]	'due (accu.)'
[ghArhAn]	'every house'
[gAṛi]	'wheel cart'

[ghAṛi]	'watch'
[pAgla:rna]	'to go mad'
[pAghla:rna]	'to melt'
[bAgra:ṛna]	'to be bad'
[bAghṛe:r]	'loss of life due to a tiger'
[ṭAgrna]	'to pass'
[lAghrna]	'to burn'
[jAgo̯a:ṛ]	'awake'
[cAgho̯a:ṛ]	'expert climber'

4.2.22. Voiceless velar unaspirated short stop [k] and the voiced [g].

[kEṛa]	'plantain'
[gEṛa]	'stick'
[kAmna]	'to make'
[gAmna]	'to graze'
[kArAm]	'name of a festival'
[gArAm]	'hot'
[kArra]	'active'
[gArra]	'storm'
[kAṛi]	'link'
[gAṛi]	'wheel cart'
[e:kna]	'to walk'
[e:gna]	'to plaster with cowdung'
[pAka]	'fruit'
[pAga]	'turban
[sAkUṛ]	'narrow'

[sAgUṛ]	'any faint sound'
[ba:kna]	'to collect'
[ba:gna]	'to comb'

4.2.23. Voiceless velar aspirated short stop [kh] and the voiced [gh].

[khAṭi]	'cot'
[ghAṭi]	'bell'
[khAṛi]	'refuse of oilseeds'
[ghAṛi]	'watch'
[kho:l]	'hollow cylinder'
[gho:l]	'mixture'
[khAsra]	'castrated'
[ghAsra]	'a slip'
[lAkhrna]	'to be seen'
[lAghrna]	'to burn'

4.2.24. Voiceless velar unaspirated long stop [kk] and the voiced [gg].

[tUkkra]	'it was pushed'
[ṭAggra]	'it passed'
[jUkki]	'few'
[lAggi]	'it strikes'
[mUkka]	'woman'
[rAgga]	'skeleton'

4.2.25. Voiceless velar aspirated long stop [kkh] and the voiced [ggh].

[tEkkhra]	'it burst'

[lAgghra]	'it burnt'

4.2.26. Glottal stop [ʔ] and fricative [h].

[bAʔna]	'to say'
[bAhna]	'an excuse'
[bAʔi]	'she says'
[bAhi]	'note book'
[dAʔu]	'a kind of ant'
[dAhu]	'a kind of fruit'
[cAʔa]	'you (mas.sg.) put (imp.)'
[cAha]	'tea'
[cAʔna]	'to put'
[cAhna]	'to like'
[cUʔi]	'she/it gets up'
[cUhi]	'limestone'
[korʔa]	'you (mas.sg.) enter (imp.)'
[korha]	'corner'

4.2.27. Voiceless dental short fricative [s] and the long [ss].

[Esna]	'to break'
[Essna]	'to knit'
[pAsa]	'hammer'
[pAssa]	'she beat'
[bAsna]	'smell'
[bAssna]	'to set fire to'
[tIsi]	'lin seed'

[tIssi]	'it became sour'
[tAsAr]	'silk'
[ṭAssAr]	'they glued'
[kAsa]	'bitter'
[kAssa]	'she ground'

4.2.28. Voiceless velar fricative [x] and voiced glottal fricative [h].

[bErxa]	'cat'
[bEṛha]	'hard'
[bArxa]	'you (mas.sg.) snare (imp.)'
[bArha]	'wild pig'
[xi:ri]	'story'
[hi:ṛi]	'near'
[xAṛna]	'to steal'
[hAṛna]	'to chop'
[xAṛxa]	'bitter'
[hAṛha]	'hyena'
[mAnxa]	'he-buffalo'
[mAnha]	'moody'
[mo:xna]	'to eat'
[mo:hna]	'to attract'

4.2.29. Voiceless palatal unaspirated short affricate [c] and the aspirated [ch].

[cAbna]	'to bite'
[chAbna]	'to plaster'
[cAṭka]	'a slap'

[chAṭka]	'grain basket'
[cAlna]	'to sift'
[chAlna]	'to deceive'
[ca:r]	'arrow'
[cha:r]	'obsolete word'
[bIci]	'a hard conglomerate of ferruginous earth'
[bIchi]	'scorpion'
[lEca]	'lame'
[lEcha]	'dal and rice served together'

4.2.30. Voiced palatal unaspirated short affricate [j] and the aspirated [jh].

[jApna]	'to meditate'
[jhApna]	'to cover'
[jAṭṭa]	'untidy hair'
[jhAṭṭa]	'twig'
[jAla]	'net'
[jhAla]	'hut'
[jAṛi]	'medicine'
[jhAṛi]	'continuous rainfall'
[Arjˀa:na]	'to earn'
[Aṛjhˀa:na]	'to entangle'
[bAja]	'any musical instrument'
[bAjha]	'entanglement'
[bAjra]	'millet'
[pAjhra]	'stream'

[sAja]	'penalty'
[sAjha]	'co-operation'

4.2.31. Voiceless palatal unaspirated short affricate [c] and the voiced [j].

[cAla]	'sieve'
[jAla]	'net'
[cᴖtta]	'one splash of cowdung'
[jᴖtta]	'string'
[cᴖkkAn]	'I plucked'
[jᴖkkAn]	'a few (accu.)'
[cᴖrgo]	'low engled'
[jᴖrgo]	'shabbily dressed'
[cᴖrcᴖro]	'one paying excessive attention'
[jᴖrjᴖro]	'bright'
[co:ṛna]	'to crackle'
[jo:ṛna]	'to unite'
[cUlcUl]	'mischievous'
[jUljUl]	'dark'
[cUlha]	'stove'
[jUlha]	'weaver'
[dArci]	'curly and under kept'
[dArji]	'tailor'

4.2.32. Voiceless palatal aspirated short affricate [ch] and the voiced [jh].

[bAcha]	'male calf'

[bAjha]	'entanglement'
[chApna]	'to print'
[jhApna]	'to cover'
[chAṭka]	'grain basket'
[jhAṭka]	'stroke'
[chAgAṛ]	'cart wheel'
[jhAgAṛ]	'grappling iron'
[chAla]	'skin'
[jhAla]	'hut'
[lEcha]	'rice and dal served in one plate'
[lEjha]	'grass and weeds turned out by plough'

4.2.33. Voiceless palatal unaspirated long affricate [cc] and the voiced [jj].

[poccna]	'to rot'
[pojjna]	'to wrap'
[bAccna]	'to snatch away'
[kAjjna]	'to press'
[xAccna]	'to break'
[xAjjna]	'to cleanse the head'

4.2.34. Voiceless palatal aspirated long affricate [cch] and the voiced [jjh].

[bAcchra]	'it escaped'
[bAjjhra]	'it fell into a trap'
[gAcchra]	'she promised'
[bUjjhra]	'she understood'

4.2.35. Voiced bilabial short nasal [m] and the long [mm].

[Ama]	'do not'
[Ammu]	'water'
[dhAmna]	'name of a snake'
[tAmmna]	'to subside'
[cImṭa]	'nippers'
[cImmba]	'a kind of bird'
[kAmṛa]	'blanket'
[kAmmra]	'it was made'

4.2.36. Voiced dental short nasal [n] and the long [nn].

[pUna]	'new'
[pAnna]	'iron'
[bAni]	'wage'
[hAnni]	'so and so'
[bAndra]	'monkey'
[xAnndra]	'she slept'
[cAni]	'slice'
[sAnni]	'small'
[cAnda]	'subscription'
[cAnndo]	'moon'
[mAna]	'prohibition'
[mAnna]	'to be'
[mAnta]	'honourable'
[mAnnta]	'of the tree'

4.2.37. Voiced retroflex short nasal [ṇ] and the long [ṇṇ].

[pAṇḍru]	'white'
[mAṇṇḍra]	'if got burried'
[bhAṇḍa:r]	'storage'
[bhAṇṇḍAn]	'earthen pot (accu.)'
[chIṇḍrna]	'to keep away oneself'
[chIṇṇḍna]	'to keep away'
[gUṇḍrU]	'quail'
[gUṇṇḍu]	'idiot'
[mUṇḍra]	'bald headed'
[mUṇṇḍra]	'she had her hair cut'

4.2.38. Voiced palatal short nasal [ñ] and the long [ññ].

[Iñjhrʔon]	'I will accept'
[iññjon]	'fish (accu.)'
[pIñjra]	'cage'
[pIññjra]	'it was named'
[gEñjna]	'to crush'
[gEññjra]	'it was crushed'
[xAñjna]	'to bear fruit'
[xAññja]	'it bore fruit'
[mAñja]	'the core of a tree'
[mAññja]	'it became'
[mUñja]	'the extremity'
[mUññja]	'you (mas.sg.) finish (imp.)'

4.2.39. Voiced velar short nasal [ṅ] and the long [ṅṅ].

[AṅgAn]	'garment (accu.)'
[AṅṅgAn]	'body (accu.)'
[bAṅgla]	'bungalow'
[Aṅṅgla]	'she opened the mouth'
[boṅga]	'one piece of wood'
[boṅṅga]	'she/it ran'
[tEṅgra]	'a kind of fish'
[tEṅṅgra]	'she revealed'
[tAṅgra]	'open space'
[tAṅṅgra]	'she hanged herself'
[sAṅgi]	'sworn friendship'
[sAṅṅge]	'together'
[sAṅgra]	'help'
[sAṅṅgra]	'she helped'

4.2.40. Voiced alveolar short trill [r] and retroflex flap [ṛ].

[Ari]	'saw'
[Aṛi]	'earthen pot'
[Arsgi]	'boil'
[Aṛsga]	'horsegram'
[bAri]	'bread made of Urid flour'
[bAṛi]	'arm'
[bArna]	'to come'
[bAṛna]	'to last'

[bArhi]	'group of villages'
[bAṛhi]	'flood'
[kʌrna]	'to enter'
[kʌṛna]	'to dig'
[gAra]	'iron hook'
[gAṛa]	'wheel cart'

4.2.41. Voiced alveolar short trill [r] and the long [rr].

[cAri]	'bamboo pin'
[cArri]	'she tears'
[cAra]	'fodder'
[cArra]	'it was torn'
[cArn̄a]	'to eat away'
[cArrna]	'to tear'
[gAra]	'iron hook'
[gArra]	'storm'

4.3.1. Voiceless dental unaspirated long consonant [tt] and a cluster of two identical dental voiceless unaspirated short consonants [t-t].

[pAttˀa:na]	'to believe'
[pAt-tˀa:na]	'to cause one to chisel'
[bItta]	'span'
[bIt-tˀa:na]	'to cause to happen'

4.3.2. Voiced dental unaspirated long stop [dd] and a cluster of two identical voiced dental unaspirated short stops [d-d].

[IddAs]	'he planted'
[Id-dAs]	'he plants'
[oddAs]	'he set fire to'
[od-dAs]	'he sets fire to'
[xAddAs]	'male child'
[bAd-das]	'he obeys'
[lAddi]	'entrails'
[lAd-di]	'you (non-mas.) load'

4.3.3. Voiceless palatal unaspirated long affricate [cc] and a cluster of two voiceless palatal unaspirated short affricates [c-c].

[pAcca]	'old'
[pAc-ca]	'it got digested'
[sUcca]	'cross bar'
[sUc-ca]	'she shut'
[rAcca]	'greasy'
[rAc-ca]	'it spread about'
[lUcca]	'dissolute'
[kUc-ca]	'she pounded'

4.3.4. Voiced dental long nasal consonant [nn] and a cluster of two voiced dental long nasal consonants [n-n].

[bAnna]	'any colour'
[bAn-na]	'to be made'
[gUnnAn]	'virtue (accu.)'
[gUn-na]	'to brother'

[kAnna]	'spear'
[gAn-na]	'to count'
[sAnni]	'small'
[sAn-na]	'to mix'
[mAnna]	'to be'
[mAn-na]	'respect'

- - - -

5. KŨṚUX PHONEMES

Not all vowel and consonant sounds described in the preceding chapters are linguistically significant in the Kũṛux language. That is, not everyone of them is needed to keep the meanings of words distinct. A small set of contrasting sounds reduced from the actually occurring sounds is enough to keep distinct the meanings of all words in the language.

If two or more phonetically similar sounds occur in an identical environment, they are said to be in contrast. If, on the other hand, they occur in different environments in such a way that one sound occurs in the context where the other does not, then they are said to be in complementary distribution. The sounds which occur in such mutually exclusive environments are predictable and therefore one of them is enough to represent them all. Such a representative sound is called *phoneme* and all the mutually exclusive sounds are called *allophones*.

On the basis of the contrastive and complementary distribution of the Kũṛux vowel and consonant sounds we get the following set of phonemes shown together with their allophonic distribution. Phonemes are conventionally written within two slashes, while the allophones are written within square brackets.

5.1. Vowels

5.1.1. Oral Short Vowels:

Phonemes	Allophones	Allophonic Distribution
/i/	[i]	Occurs finally
	[I̯]	Occurs contiguous to syllabic vowels
	[I]	Occurs elsewhere
/e/	[I]	Occurs finally
	[E̯]	Occurs contiguous to syllabic vowels
	[E]	Occurs elsewhere
/u/	[u]	Occurs finally
	[U̯]	Occurs contiguous to syllabic vowels
	[U]	Occurs elsewhere
/o/	[o]	Occurs finally
	[∩̯]	Occurs contiguous to syllabic vowels
	[∩]	Occurs elsewhere
/a/	[a]	Occrus-finally
	[A]	Occurs elsewhere

5.1.2. Nasal Short Vowels:

/ĩ/	[ĩ]	Occurs finally
	[Ĩ̯]	Occurs contiguous to syllabic vowels
	[Ĩ]	Occurs elsewhere

Phonemes	Allophones	Allophonic Distribution
/ĕ̃/	[ĕ̃]	Occurs finally
	[Ĕ̯̃]	Occurs contiguous to syllabic vowels
	[Ĕ̃]	Occurs elsewhere
/ŭ̃/	[ŭ̃]	Occurs finally
	[Ŭ̯̃]	Occurs contiguous to syllabic vowels
	[Ŭ̃]	Occurs elsewhere
/ŏ̃/	[ŏ̃]	Occurs finally
	[ŏ̯̃]	Occurs contiguous to syllabic vowels
	[Ŏ̃]	Occurs elsewhere
/ẵ/	[ẵ]	Occurs finally
	[Ẵ]	Occurs elsewhere

5.1.3. Oral Long Vowels:

/i:/	[i:]	Occurs initially
	[I:]	Occurs contiguous to syllabic vowels
/e:/	[e:]	Occurs wherever possible
/u:/	[u:]	- do -
/o:/	[o:]	- do -
/a:/	[a:]	- do -

5.1.4. Nasal Long Vowels:

/ĩ:/	[ĩ:]	- do -
/ẽ:/	[ẽ:]	- do -
/ũ:/	[ũ:]	- do -

Phonemes	Allophones	Allophonic Distribution
/õ:/	[õ:]	Occurs wherever possible
/ã:/	[ã:]	- do -

5.2. Consonants

5.2.1. Stops:

5.2.1.1. Short Stops :

Voiceless Unaspirated -

/p/	[p]	- do -
/t/	[t]	- do -
/ṭ/	[ṭ]	- do -
/k/	[k]	- do -
/ʔ/	[ʔ]	- do -

Voiceless Aspirated -

/ph/	[ph]	- do -
/th/	[th]	- do -
/ṭh/	[ṭh]	- do -
/kh/	[kh]	- do -

Voiced Unaspirated -

/b/	[b]	- do -
/d/	[d]	- do -
/ḍ/	[ḍ]	- do -
/g/	[g]	- do -

Voiced Aspirated -

/bh/	[bh]	- do -
/dh/	[dh]	- do -

Phonemes	Allophones	Allophonic Distribution
/ḍh/	[ḍh]	Occurs wherever possible
/gh/	[gh]	- do -

5.2.1.2. Long Stops :

Voiceless Unaspirated -

/pp/	[pp]	- do -
/tt/	[tt]	- do -
/ṭṭ/	[ṭṭ]	- do -
/kk/	[kk]	- do -

Voiceless Aspirated -

/pph/	[pph]	- do -
/tth/	[tth]	- do -
/ṭṭh/	[ṭṭh]	- do -
/kkh/	[kkh]	- do -

Voiced Unaspirated -

/bb/	[bb]	- do -
/dd/	[dd]	- do -
/ḍḍ/	[ḍḍ]	- do -
/gg/	[gg]	- do -

Voiced Aspirated -

/bbh/	[bbh]	- do -
/ddh/	[ddh]	- do -
/ḍḍh/	[ḍḍh]	- do -
/ggh/	[ggh]	- do -

5.3. Affricates

5.3.1. Short Affricates:

Voiceless Unaspirated -

Phonemes	Allophones	Allophonic Distribution
/c/	[c]	Occurs wherever possible

Voiceless Aspirated -

/ch/	[ch]	- do -

Voiced Unaspirated -

/j/	[j]	- do -

Voiced Aspirated -

/jh/	[jh]	- do -

5.3.2. Long Affricates:

Voiceless Unaspirated -

/cc/	[cc]	- do -

Voiceless Aspirated -

/cch/	[cch]	- do -

Voiced Unaspirated -

/j/	[jj]	- do -

Voiced Aspirated -

/jjh/	[jjh]	- do -

5.4. Fricatives

5.4.1. Short Fricatives:

/s/	[s]	- do -
/h/	[h]	- do -

Phonemes	Allophones	Allophonic Distribution
/x/	[x]	Occurs wherever possible

5.4.2. Long Fricatives:

/ss/	[ss]	- do -

5.5. Nasals

5.5.1. Short Nasals:

/m/	[m]	- do -
/n/	[ṇ]	Occurs before retroflex consonants
	[n]	Occurs elsewhere
/ñ/	[ñ]	Occurs wherever possible
/ṅ/	[ṅ]	- do -

5.5.2. Long Nasals:

/mm/	[mm]	- do -
/nn/	[ṇṇ]	Occurs before retroflex consonants
	[nn]	Occurs elsewhere
/ññ/	[ññ]	Occurs wherever possible
/ṅṅ/	[ṅṅ]	- do -

5.6. Trills

5.6.1. Short Trills:

/r/	[r]	- do -

5.6.2. Long Trills:

/rr/	[rr]	- do -

5.7. Laterals

5.7.1. Short Laterals:

Phonemes	Allophones	Allophonic Distribution
/l/	[l]	Occurs wherever possible

5.7.2. Long Lateral:

/ll/	[ll]	- do -

5.8. Flap

/ṛ/	[ṛ]	- do -

TWO CONSONANT-CLUSTER MATRIXES

(A) Word-Medially:

First members	Second members																												
	y	Y	w	W	p	t	ṭ	c	k	?	th	ṭh	ch	kh	b	d	ḍ	j	g	gh	s	x	h	m	n	ṅ	r	l	ṛ
y						+	+		+			+				+			+						+		+	+	
Y						+			+							+								+	+			+	
w									+					+		+							+				+		+
W						+		+	+	+						+							+		+			+	
y						+		+	+				+												+		+		+
W							+																				+		+
p	+		+			+	+	+	+	+						+	+				+		+	+	+		+	+	+
t					+			+	+	+						+		+				+	+	+	+		+	+	+
ṭ	+		+	+	+	+		+	+	+					+							+	+		+		+	+	
c					+	+		+	+	+						+							+		+		+	+	
k			+	+		+	+	+	+	+		+			+	+					+		+	+	+		+	+	+
?									+							+									+				

First members	Second members																												
	y	Y	w	W	p	t	ṭ	c	k	?	th	ṭh	ch	kh	b	d	ḍ	j	g	gh	s	x	h	m	n	ṅ	r	l	ṛ
ph						+		+	+	+						+									+				
th						+		+	+	+						+									+		+	+	
ṭh						+		+	+	+						+									+		+	+	+
ch	+		+	+		+		+	+	+						+											+	+	+
kh	+		+	+		+		+	+	+						+					+				+		+	+	+
b						+		+	+	+						+						+	+		+		+	+	+
d						+		+	+	+					+	+							+	+	+		+	+	+
ḍ																											+		
j						+		+	+	+						+		+				+	+		+		+	+	+
g				+		+		+		+					+	+							+	+	+		+	+	+
bh						+		+	+	+						+									+		+		
dh						+		+	+	+						+									+		+		
ḍh																											+		
jh						+		+	+	+						+									+		+		

First members	Second members																												
	y	Y	ẇ	W	p	t	ṭ	c	k	ʔ	th	ṭh	ch	kh	b	d	ḍ	j	g	gh	s	x	h	m	n	ṅ	r	l	ṛ
gh				+		+		+	+	+						+									+		+		+
pp																+									+		+		
tt						+			+	+						+									+		+		
ṭṭ						+			+							+									+		+		
cc						+			+							+									+		+		
kk						+			+							+									+		+		
pph																									+		+		
tth																									+		+		
ṭṭh						+			+							+									+		+		
cch						+																			+		+		
kkh						+										+									+		+		
bb						+			+							+									+		+		
dd						+			+							+									+		+		
ḍḍ																									+		+		

First members	Second members																												
	y	Y	w	W	p	t	ṭ	c	k	?	th	ṭh	ch	kh	b	d	ḍ	j	g	gh	s	x	h	m	n	ṅ	r	l	ṛ
jj						+			+							+									+		+		
gg						+			+							+									+		+		
bbh																											+		
ḍḍh																											+		
jjh																											+		
ggh																											+		
s					+	+	+	+	+	+	+		+		+	+			+				+	+	+	+	+	+	+
x						+		+	+	+						+									+			+	
h					+	+	+	+	+	+					+	+		+	+					+	+		+	+	+
ss						+			+							+									+		+	+	+
m			+			+	+	+	+	+			+			+	+	+	+		+	+	+		+		+	+	+
n	+		+		+	+		+	+	+	+			+	+	+		+	+	+	+	+	+		+				
ñ																		+											
ṅ						+		+	+						+	+					+		+		+		+	+	+

First members	Second members																												
	y	Y	w	W	p	t	ṭ	c	k	?	th	ṭh	ch	kh	b	d	ḍ	j	g	gh	s	x	h	m	n	ṅ	r	l	ṛ
mm					+	+			+						+	+									+		+		
nn						+	+	+				+				+		+							+		+		
ññ								+																					
ṅṅ						+			+					+		+									+				
r	+	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+		+	
rr						+			+							+									+				
l				+	+	+	+	+	+	+				+	+	+			+		+	+	+	+	+				
ll						+			+							+									+		+		
ṛ	+	+		+	+	+		+	+	+					+	+			+		+		+	+	+				

Plus mark indicates that the consonants in the column co-occur to form a clusteral sequence.

(B) Word-Finally:

First members	Second members							
	ṭ	k	d	j	s	c	r	ṛ
y					+	+	+	
Y						+	+	
w								+
W								+
ỹ					+			
n			+					
nn	+							
ñ̃ñ̃				+				
ṅṅ		+						

THREE-CONSONANT CLUSTER MATRIX

First members	Second and third members																							
	t	rn	r	rk	rd	ck	l?	r?	rh	ṅh	gh	th	lh	pr	br	tr	dr	jr	kr	x?	k?	kh?	m?	n?
y	+	+	+	+	+																			
Y							+																	
w							+																	
W	+	+	+	+	+	+	+																	
y	+	+	+	+	+																			
p	+	+	+	+	+	+	+	+	+															
t	+	+	+	+	+	+	+	+	+	+														+
ṭ	+	+	+	+	+	+	+		+															
c	+	+	+	+	+	+		+	+	+														
k	+	+	+	+	+	+	+			+			+											
ph	+	+	+	+	+	+		+																
th	+	+	+	+	+	+	+																	

First mem-bers	Second and third members																							
	t	rn	r	rk	rd	ck	lʔ	rʔ	rh	nh	gh	ṭh	lh	pr	br	tr	dr	jr	kr	xʔ	kʔ	khʔ	mʔ	nʔ
ṭh	+	+	+	+	+	+																		
ch	+	+	+	+	+	+	+	+																
kh	+	+	+	+	+	+	+																	
b	+	+	+	+	+	+	+	+	+															
d	+	+	+	+	+	+	+	+	+	+										+				+
ḍ		+	+	+	+																			
j	+	+	+	+	+	+		+		+														
g	+	+	+	+	+	+	+	+	+															
bh		+	+	+	+	+																		
dh	+	+	+	+	+	+																		
ḍh		+	+	+	+																			
jh		+	+	+	+	+		+																
gh		+	+	+	+	+	+	+																
pp	+																							

First	Second and third members																							
mem-bers	t	rn	r	rk	rd	ck	l?	r?	rh	nh	gh	ṭh	lh	pr	br	tr	dr	jr	kr	x?	k?	kh?	m?	n?
tt	+																							
ṭṭ	+																							
cc	+																							
kk	+																							
bb	+																							
dd	+																							
jj	+																							
kkh	+																							
s	+	+	+	+	+	+	+	+	+		+	+												
x	+	+	+	+	+	+																	+	
h	+	+	+	+	+	+	+																	
ss	+																							
m	+	+	+	+	+	+	+		+															

First members	Second and third members																							
	t	rn	r	rk	rd	ck	l?	r?	rh	nh	gh	ṭh	lh	pr	br	tr	dr	jr	kr	x?	k?	kh?	m?	n?
n	+	+	+	+	+	+											+	+						
ṅ	+	+	+	+	+	+																		
mm	+												+	+										
nn															+		+							
ṅṅ																			+					
l	+	+	+	+	+	+														+	+	+		
ll	+																							
r	+																							
rr	+																							
ṛ	+	+	+	+	+	+																		

6. KŨṚUX AND THE DEVANAGARI SCRIPT

Kũṛux was put to writing some time during the later half of the 18th century when Christian missionaries started learning the language with the view to preach the Gospel among the Kũṛux people. They prepared pamphlets with Kũṛux examples written in the Roman script along with grammatical notes. These pamphlets were meant for private circulation among the fellow missionary workers. During the same period Kũṛux language and folklore were written in the Roman script and included in books and journals published in the European languages.

Devanagari script was introduced for writing Kũṛux some time in the beginning of the 19th century by the Christian missionaries who wrote prayer books and religious instructions in the language. At present Christian literature continues to be written in the Devanagari script.

While describing the Kũṛux sounds in chapters 2 and 3, their correspondence with Hindi sounds as represented by the Devanagari script was pointed out wherever possible. However, correspondence was not given for quite a few Kũṛux sounds since there was no corresponding Devanagari letter. This is true of Kũṛux phonemes also. For instance, while the Devanagari letters ए and ओ can represent the Kũṛux phonemes /e:/ and /o:/ respectively, there are no Devanagari letters to represent the Kũṛux short vowels /e/ and /o/. This problem can be resolved by using diacritical marks to indicate shortness. Accordingly, /e/ and /o/ vowels can be written as ए̆ and ओ˘ respectively. Among consonant phonemes, /ʔ/ alone has no corresponding Devanagari symbol. This can, however, be represented by the symbol '२'.

Below is the list of Kũṛux phonemes together with the corresponding Devanagari letters and their modifications.

VOWELS

Primary Symbols		Primary Symbols	
i	इ	u:	इं
e	ए̆	ẽ	ऍं
u	उ	ũ	उं
o	ओ˘	õ	ओं˘
a	अ	ã	अं
i:	ई	ĩ:	इँ
e:	ओ	ẽ:	एं
u:	ऊ	ũ:	ऊं
o:	ओ	õ:	ओं
a:	आ	ã:	आं

CONSONANTS

Primary Symbols		Primary Symbols	
p	प्	ss	स्स्
t	त्	m	म्
ṭ	ट्	n	न्
c	च्	ñ	ञ
k	क्	ṅ	ङ्
?	२	ph	फ्
b	ब्	th	थ्
d	द्	ṭh	ठ्
ḍ	ड्	ch	छ्
j	ज्	kh	ख्
g	ग्	bh	भ्
pp	प्प्	dh	ध्
tt	त्त्	ḍh	ढ्
ṭṭ	ट्ट्	jh	झ्
cc	च्च्	gh	घ्
kk	क्क्	pph	प्फ्
bb	ब्ब्	tth	त्थ्
dd	द्द्	ṭṭh	ट्ठ्
ḍḍ	ड्ड्	cch	च्छ्
jj	ज्ज्	kkh	क्ख्
gg	ग्ग्	bbh	ब्भ्
s	स्	ddh	द्ध्
h	ह्	ḍḍh	ड्ढ्
x	ख़	jjh	ज्झ्

CONSONANTS

Primary	Symbols	Primary	Symbols
ggh	गघ्	l	ल्
mm	म्म्	ll	ल्ल्
nn	न्न्	r	र्
ññ	ञ्ञ्	rr	र्र्
ṅṅ	ङ्ङ्	ṛ	ड़्

Finally, representation of the Kũṛux consonant clusters in the Devanagari script needs to be mentioned. Alike Hindi system of pronunciation, any consonant letter which closes a syllable is pronounced as a pure consonant, that is, without the vowel *a*. When a sequence of two or more consonants closes a syllable, then all such consonants shall form, wherever possible, a combined letter or sanyuktakshar and shall be pronounced as pure consonant letters. For example, /barckan/ 'I came' shall be written as बरचकन /xandradan/ 'I sleep' as ख़न्दरकन , and /aṃbrkan/ 'I am left' as अःबरकन , etc. When a consonant cluster begins a syllable, then such consonants shall similarly form a combined letter. For example, /calxtʔa:dan/ 'I am causing one to open' shall be written as चलखत्ऽादन , /khatrtʔ-a:dan/ 'I am making one fall by oneself' as खतरत्ऽादन , and /lathrtʔa:dan/ 'I am making one

being kicked' as लथरत्रादन , etc. If such consonant clusters cannot form combined letters convenient for writing or typing all but the last consonant shall be marked with *hal* to indicate that the letters so marked have no inherent a. For example, /maṛxdan/ 'I make dirty' shall be written as मड़्ख्दन , /langṛa/ as लङगड़ा , etc. A long consonant shall similarly be written as a combination of identical letters wherever possible. For example, /ummpra/ 'it got pierced' shall be written as उम्मपरा , /samm/ 'plain' as सम्म ,
/ ann/ 'eye' as खन्न , /xanndra/ 'she/it slept' as खन्न्दरा , etc. A long consonant that cannot be conveniently represented by such combined letters can be written as two identical letters with a *hal* below the first one. For example, /boṅṅga/ 'she/it ran' shall be written as बोँङ्ङ्गा .

- - - -

BIBLIOGRAPHY

1. CHRISTOPHERSEN, P. : An English Phonetic Course, New Delhi, 1970.

2. CARREL, JAMES and TIFFANY, W.R. : Phonetics: Theory and Application to Speech.

3. EKKA, F. : A Grammar of Kũṛux Language, , Unpublished Ph.D. Dissertation, Madurai University, Madurai, 1970.

4. GLEASON, H.A. Jr. : Introduction to Descriptive Linguistics, Calcutta, 1970.

5. HOCKETT, C.F. : A Course in Modern Linguistics, New York, 1945.

6. PIKE, K.L. : Phonemics: A Technique for Reducing Language to Writing, University of Michigan Press, 1958.

- - - -

INDEX

Affricate - 37.
Affricate consonants - 69-75.
Allophone - 130.
Aspirated consonants - 47-50, 54-57, 61-65.
Aspiration - 38.
Bilabial - 38.
Bilabial consonants - 42, 47, 50, 54, 57, 59, 61, 63.
Consonant - 37-87.
Consonant (classification of) - 37-39.
Consonant clusters - 138-147.
Consonant (description of) - 42-87.
Dorsum - 7.
Flap - 37.
Flap consonants - 86.
Fricative - 37.
Fricative consonants - 65-69.
Glottal - 38.
Glottal stop - 46.
Glottis - 7.
Hard palate - 8.
Larynx - 6.
Lateral - 37.
Lateral consonant - 84-86.
Length - 39.
Nasal consonants - 75-82.

Nasal vowel - 12, 21-25, 29, 30, 34, 35.

Palatal - 38.

Palatal consonants - 70-75, 78.

Phoneme - 130.

Soft palate *(see Velum)* - 7.

Stop - 37.

Stop consonants - 42-65.

Syllabic *(Vs. Non-syllabic)* - 12.

Syllabic vowels - 13-30.

Retroflex - 38.

Retroflex consonants - 44, 49, 52, 56, 58, 60, 62.

Trill - 37.

Trill consonants - 82.

Tongue *(tip)*, *(blade)* - 8.
(back), (root) - 9.

Vocal cords - 6.

Velic - 9.

Velum - 7.

Voiced consonants - 52-56.

Voicing - 38.

Vowel - 11-36.

Vowel *(classification of)* - 11-12.

Vowel *(description of)* - 13-36.

Velar - 38.

Velar consonants - 45, 49, 53.

- - - -